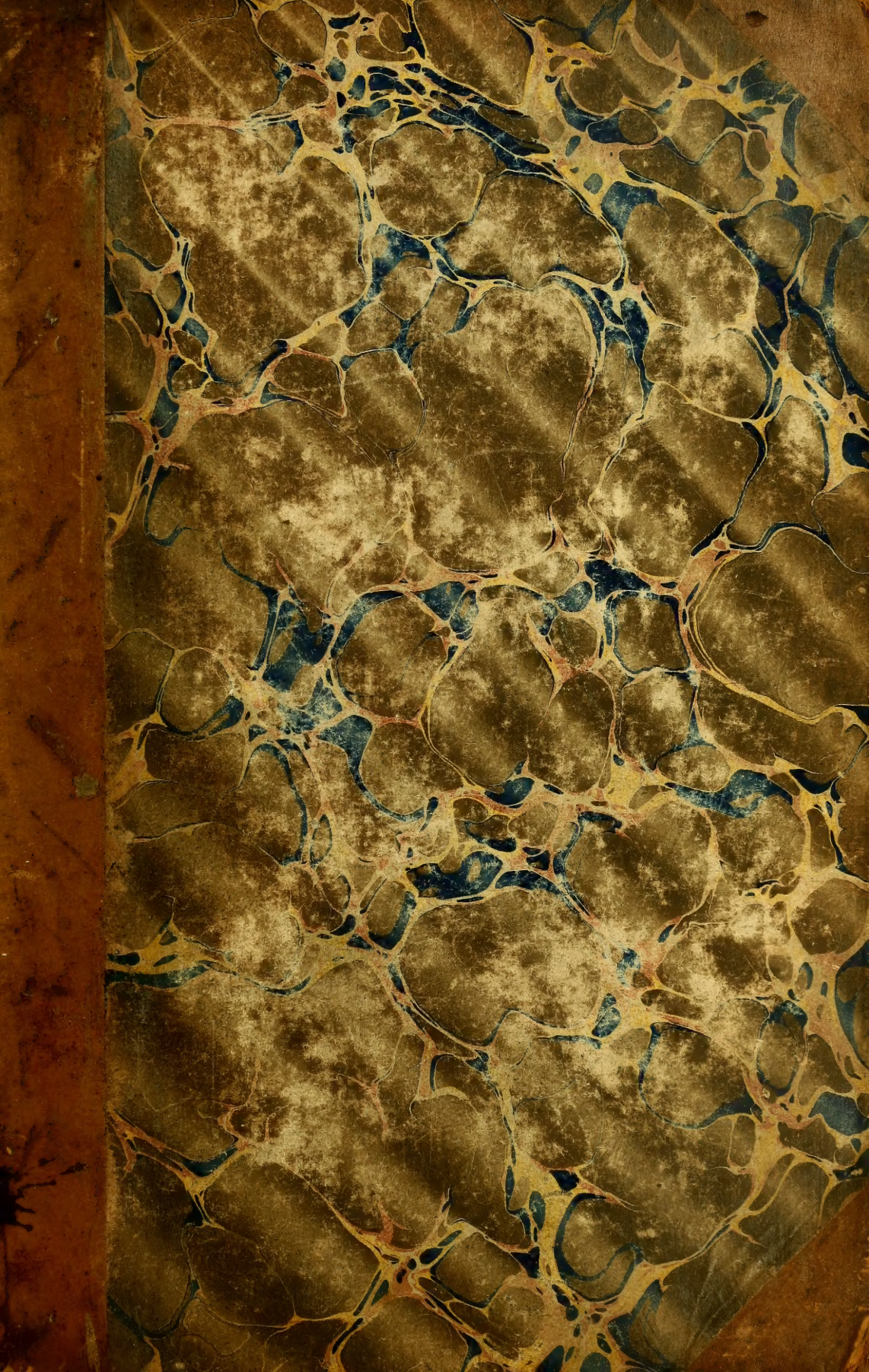




May 20. 1897.

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REGULATIONS FOR THE LIBRARY
OF THE
Massachusetts Horticultural Society,
ADOPTED 1861.

ARTICLE I.

All Books, Manuscripts, Drawings, Engravings, Paintings, Models, Furniture, and other articles appertaining to the Library, shall be confined to the special care of the Committee on the Library.

ARTICLE II.

When any books or publications are added to the Library, a list thereof shall be posted up in the Library Room, and all such additions shall be withheld from circulation for the term of one month.

ARTICLE III.

The following Books of Record shall be kept:—

- No. 1. A Catalogue of the Books.
- No. 2. A Catalogue of the Manuscripts, Drawings, Engravings, Paintings, Models, and all other articles.
- No. 3. A list of all Donations, Bequests, Books, or other articles presented to the Society, with the date thereof, and the name and residence of the donor.

ARTICLE IV.

Rare and costly books shall not be taken from the Library Room. A list of such works as are to be withheld from circulation shall be made out from time to time by the Library Committee, and placed in the hands of the Librarian.

ARTICLE V.

No more than two volumes shall be taken out by any member at one time, or retained longer than three weeks; and for each volume retained beyond that time a fine of ten cents per week shall be paid by the person so retaining it. And a fraction of a week shall be reckoned as a whole week in computing fines.

ARTICLE VI.

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THE FARMER'S MAGAZINE.

VOLUME THE EIGHTH.

JANUARY TO JUNE, MDCCCXXXVIII.

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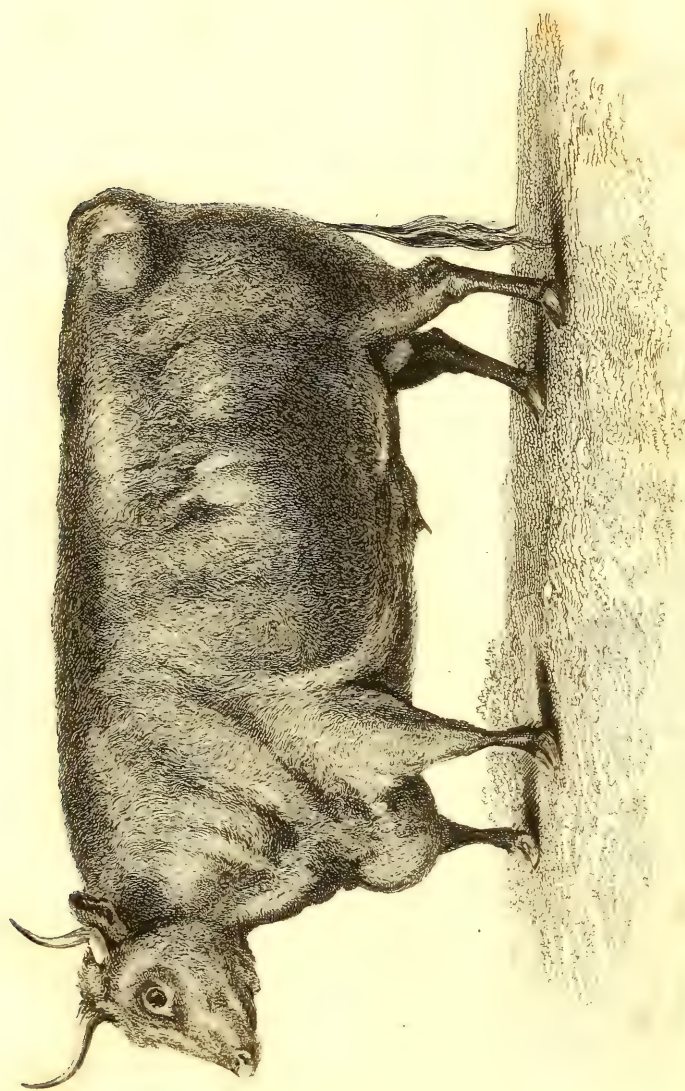


PLATE 100. A Cow of the Friesian Breed, standing in the Dutch Pasture, near the Village of Friesland, in the Province of Friesland, in the Kingdom of the Netherlands.

THE FARMER'S MAGAZINE.

JANUARY, 1838.

No. I.]

[VOL. VIII.

THE PLATE.

The subject of our Plate is an Ox of the pure Devon breed, the property of the Earl of Leicester. This animal was two years and nine months old, bred and fed by his Lordship, exhibited at the late Smithfield Show, and obtained the second premium in Class I. As a specimen of the Devon breed, this Ox was considered as beautiful and perfect as any ever seen, and does great credit to the Noble Earl's skill and judgment. In the same class, a Steer of the Somerset, or improved Devon breed, was exhibited by Mr. Giblett. This Steer was bred by Mr. Gibbs, of Bishops Lydiard, Somersetshire, and was 19 months old only, and certainly a very extraordinary animal. Since the celebrated sweepstakes between the short-horned Freemartin Heifers, belonging to Earl Spencer and the Marquis of Exeter, no beasts exhibited at the Smithfield Show have caused so much discussion as the two first mentioned. A great diversity of opinion existed upon their comparative merits, many placing Mr. Giblett's Steer above the Earl of Leicester's Ox, but the Judges, with whom the decision rested, pronounced in favour of the Ox. We have examined the carcasses, and must confess, however difficult we might have found it if called upon to award the palm of merit when living, we should have felt none upon seeing them dead. In our estimation, Mr. Giblett's was the best. The Earl of Leicester's Ox weighed, when dead, 140 st. 2 lbs., 8 lbs. to the stone; Mr. Giblett's Steer weighed 166 st. 4½ lbs.

NATIONAL AGRICULTURAL INSTITUTION.

We have now arrived at the sixth year's day since we commenced the dedication of our labours to the service of the British Agriculturists, through the pages of the Farmer's Magazine. During the period to which we allude, namely, from the month of October, 1832, up to the first of January, 1838, we have persevered steadily in our object, collecting from every source within our reach, to the best of our ability and judgment, such information as we trusted would be found useful to the British Farmer. Although we have, from time to time, received many flattering testimonies in approbation of our labours, still with the strongest feelings of gratitude towards those friends who have spoken kindly of our exertions, we prefer appealing to that unerring test, public opinion, which has pro-

nounced judgment upon us in a mode which cannot be mistaken, that is, by raising our circulation far above that of any other Agricultural Magazine ever published in England. Having used our utmost endeavours to meet the approbation and obtain the patronage of the British Farmers, and having succeeded in those endeavours, it is not probable that we should falter in our exertions, nevertheless we feel bound in gratitude to state that great as have been the exertions which we have made, in order to attain our present position, we shall not relax one jot in endeavouring to render our labours more valuable to those who have given us such kind and generous support. During the period of five years and a quarter to which we are now inviting attention, the difficulties with which the Agriculturists of Great Britain have had to contend were such as to require the exercise of that patience and self-denial which has been so pre-eminently displayed by them

upon many occasions during the last five and twenty years. From the beginning of the year 1833 a gradual decrease in the price of wheat took place until it reached the *minimum* in December, 1835, when the general average of the kingdom had declined to the unprecedented low rate of 36s. per quarter, much having been sold so low as 32s., or 4s. per bushel. Up to the commencement of the year 1836 at least, the flockmasters had not recovered the fatal effects of the rot of 1831. During this period also, the hay and spring crops twice suffered severely from the drought of the seasons, and the turnip crop was utterly destroyed, a new enemy having appeared in the field against whose ravages, as well as those of his predecessors, no efficient remedy has as yet been discovered. Borne down by an accumulation of evils it was natural for the farmer to complain, and various remedies were suggested by persons whose attention was directed to the subject. Reduction of rent was the remedy proposed by some, whilst an alteration of the currency, a repeal of the malt-tax, and the interference of the legislature, were the panaceas prescribed by others. In 1833 a committee of the House of Commons was appointed to inquire into the causes of agricultural distress. This committee examined a great number of witnesses and terminated its labours by producing a report wherein the existence of Agricultural distress was fully admitted, but for which no remedy was suggested. Sundry motions for the repeal of the malt tax were made in the House of Commons, but without success, the leading men of all parties uniting in opposition to the measure. In December 1835 a society was formed entitled the "Central Agricultural Society," having for its object a concentration of the strength of the landed interest, in the full expectation that by uniting the several local associations as it were in one great body, an array of force would be displayed which would compel the legislature to attend to such demands for the relief of agricultural distress as might, after mature deliberation, be proposed by the concentrated wisdom of the society. That scheme, however, altogether failed, the "Central Society" not having up to the present moment been successful in any one useful object. In the summer of 1836 select committees of both Houses of Parliament were again appointed to enquire into the causes and to devise a remedy for Agricultural distress. These committees sat for a very long time, examined a great number of witnesses from all parts of the United Kingdom, and terminated their labours, if possible more fruitlessly than the committee of 1833, having both discontinued their sittings without making any report. They have, however, left a memento of their exertions, on behalf of the British Farmer, in the shape of four large folio volumes of evidence, the perusal of which, by any number of farmers is totally impossible. Notwithstanding that the result of the labours of these com-

mittees was not such as was anticipated by those persons who were instrumental in getting them appointed, still we are of opinion that they have been productive of benefit. Much useful information upon Agricultural matters has been collected, several useful treatises upon the prospects of Agriculture have been published; the advocates for high prices as a means of upholding rents have been convinced that the legislature will not countenance their views, and the tenant-farmer has it more clearly shewn to him that it is by the adjustment of rent to prices, and to improvement in every department of farm management that he must look for that return for the employment of his capital, his skill, and his industry, which every man, in whatever occupation engaged, has a right to expect. It is not necessary to carry the attention further back than the first mentioned period, 1832, and to scan the state of things from that time down to the present, in order to feel convinced that a great and beneficial change has taken place in the opinions which were entertained upon Agricultural matters, as well amongst landlords as tenants. Nor, whilst we scrupulously guard against the supposition that tenants are in a highly prosperous condition, can it be denied that farming is in a more wholesome condition at this time than it has been for many years. Landlords are becoming better informed upon matters immediately connected with the management of their estates, they begin to perceive the necessity of applying the same principles to the letting of their estates, as to any other species of property; they feel the benefit of mixing with their tenantry, which is daily becoming more general through the medium of Agricultural associations; and they at last discover that there is something more required of them than the mere auditing the accounts of their agents at quarter day. Attention is at length roused to the remarkable progress which agriculture has made in Scotland, and to the high rents cheerfully paid by the tenants there, although labouring under the disadvantage of a more inhospitable climate. That the Scotch are better farmers than the English generally, that they pay higher rents, and that their system of farming is improving daily, are facts at last unequivocally though reluctantly admitted, and the question is very naturally asked, how has this been effected? how is it that our Northern brethren labouring under acknowledged disadvantages have beaten us in the race? The answer is, by reducing the practice of, and improvements effected by, the most talented and skillful agriculturists to writing, thereby establishing agriculture as a *science* and again diffusing such information speedily and widely amongst the farmers. The effective attainment of both objects may be mainly if not altogether, ascribed to the exertions of the Highland Agricultural Society. We have been always so deeply impressed with the high value of this Society that we have never failed to

hold it up as a model to all other Agricultural Societies. A like opinion of its utility is rapidly spreading, as well as a desire to become better acquainted with the system of management adopted by the Scotch Agriculturists. At a late meeting of the West Suffolk Agricultural Society, Mr. Gayford stated,

"He had recently taken a tour in the North of England, for the purpose of seeing the Scotch mode of agriculture, and he must in truth say that the Scotch farmers were considerably before those of Suffolk. (Hear.) Nor were they superior only as regarded their mode of tillage, but with respect to everything relating to agriculture. As regarded their societies, for instance, not only did they give prizes to successful exhibitors of animals, but for inventions also, and they possessed museums containing all kinds of implements, and models of implements and machines. They preserved the different varieties of grain, and they possessed specimens of the flower, the ripened ear—the straw of all of them, and were acquainted with the kind of soils most suitable for the successful productions of each variety. (Hear, hear) They even went so far as to collect specimens of all the soils themselves—not only the upper but the sub-soils. In order to grow corn in a profitable manner for the farmer, it was necessary that the ground in which it was sown should contain four gases. (Hear.) Now he (Mr. Gayford) knew nothing of these gases, nor was he acquainted where he could obtain intelligence respecting them, but the Scotch farmers employed a chemist, who understood the matter, and by sending a specimen of the soil about to be sown to him, he would at a moderate charge give the requisite information with regard to the existence of these gases in the earth. With the English farmer however, nothing of this kind was done—he went and scattered the seed upon the land, and whether the soil was fit to receive it or not, was as it happened—it was all guess work. (A laugh.) He however, should not be satisfied, until he found the societies of this part of the kingdom following the example of the Scotch, nor until their rich neighbours obtained, through the agricultural chemist, a proper analysis of the land. If their landlords did this for them, the farmer would be better able to pay his rent." (Hear.)

Upon looking over the list of Members of the Highland Society, it is worthy of observation how many of the names there registered will be found to consist of the largest landowners in England and Ireland, and it is not less surprising that noblemen and gentlemen who have exerted themselves so praiseworthily and successfully in improving agriculture in the poorer part of the island, should not have thought of applying similar means for the advancement of agriculture in the South. It may have been, that they deemed increased exertion requisite, to overcome the disadvantages of climate, &c., but if the adoption of such means has enabled the Scotch farmers to excel the occupants of a finer soil, and enjoying a more genial climate, surely the advantage of extending the same encouragement to the advancement and diffusion of agricultural information in England must be self evident. We have reason to believe that

some of the large landowners, Members of the Highland Society, are astonished that a subject so fraught with national good, and so pregnant with advantage to themselves, should have been so long overlooked. We are, however, highly gratified at being enabled to communicate to the British agriculturists on this, the first day of the new year, that a Society, similar to the Highland Agricultural Society, will be formed immediately under auspices which we feel persuaded will insure its success. It will be seen, upon reference to the report of the proceedings at the dinner of the Smithfield Club, page 47 of this number, that the noble president, Earl Spencer, and the Duke of Richmond, one of the vice-presidents of the Club, drew the attention of the company to the advantages which Scotland had derived from the exertions of the Highland Society, and expressed an opinion in favour of the establishment of a similar Society in England. The observations made upon this subject by the noble Lords, were received in the most enthusiastic manner by one of the largest meetings of agriculturists ever assembled at the dinner of the Club. It should here be noticed that the Duke of Richmond, being himself a member of the Highland Society, no person can be more competent to bear testimony to the benefits resulting from the exertions of that Society. The noble president, Earl Spencer, is deeply impressed with the importance of cultivating the *science* of agriculture, and of enquiring into the application of *chemistry* to agriculture, from which the most enlightened agriculturists of the day anticipate important results. The Society of which these noble Lords have already laid the foundation, should be something more than a Society, if possible it should be a "National Agricultural Institution," confined strictly to the improvement of the *science* and *practice* of agriculture, but embracing every branch of that important subject. Being, ourselves, fully persuaded that the introduction of politics at meetings of this kind is highly prejudicial, we rejoice that Earl Spencer has announced, in the earliest stage of the proceedings, his sentiments upon that subject. "There could be no prospect (said his Lordship) of obtaining any useful results from a Society such as he proposed, unless *politics* and *all matters which might become subjects of legislative enactment* were scrupulously avoided at the meetings." To these sentiments, the persons present responded in terms of the most unqualified approbation. Mr. Handley, the Member for Lincolnshire, whose zeal and diligence in the cause of agriculture are well known, warmly supported the proposition of the noble Lords, and promised his aid in completing the object. The Earl of Scarborough, Lord Maidstone, Lord William Lennox, — Eaton, Esq., M.P., — Wilmott, Esq., and C. Hillyard, Esq., President of the Northamptonshire Farming and Grazing Society, expressed their determination to co-operate in

establishing the Society. We trust it is not necessary to say any thing by way of inducement to landlords and tenants, to stand forward in support of an institution such as is proposed. But if it be needful, we would direct their attention to the successful exertions making by our continental neighbours to promote the improvement of agriculture. An Agricultural Society has been formed in Paris, which communicates with nearly 200 local societies in different parts of France, and has correspondents in every part of that kingdom, besides more than 50 foreign correspondents in almost every part of the world,—several in England. New local societies are in course of formation daily, ploughing matches are introduced, a steam plough has been invented, and found more practically useful than that upon which Mr. Heathcote, M.P., has so patriotically expended 10,000*l*. Agricultural schools are established in different parts of France. The French possess several experimental farms, and the propriety of establishing agricultural colleges for the instruction of youth is strongly urged by the best practical writers of the day. At Petersburg and Moscow, agricultural colleges are established. In Prussia the King especially patronizes agriculture, and the academy at Frankfort upon the estate called Moglin, under the superintendence of Mr. Thaer, the most scientific agriculturist in the world, is well known. If we plume ourselves upon our superior knowledge, and regard with indifference the exertions made by our neighbours, we shall by and by discover to our shame, disgrace, and loss that as in the case of the Scotch agriculturists, we shall have to go abroad for information. An opportunity now offers, for forming an "Agricultural Institution," which may raise the agriculture of this country as high in comparison with other nations, as are now its commerce and manufactures. We cannot do better than conclude our remarks by appealing to the landed interest in the language of the *Mark Lane Express*, of Monday, Dec. 18.

"We call upon the proprietors of land to stand forth in aid of an institution, to support which they are encouraged not only by the certainty of national benefit, but also by the additional stimulus of private interest. We call upon the tenantry to give their proportionate share of support, as it will enable them to obtain information upon matters connected with their occupation, the want of which prevents them from making their capital, their industry, and their talents as available and profitable as they otherwise might do. And finally, we call upon our brethren of the local press to lend their assistance in effecting an object which, whilst it will powerfully further one branch of their vocation, the advancement of knowledge and science, will also benefit the whole agricultural community in a mode, the propriety of which not one of them, whatever be his tenets in political economy, can doubt."

THE LATE REV. HENRY BERRY,

BREEDER OF THE IMPROVED SHORT-HORNS.

Society cannot contemplate an object more deserving of esteem than the man who devotes all the energies of a comprehensive mind, and all the results of an untiring assiduity, to the accomplishment of those benefits which are permanent in their duration, and universally advantageous to every class of the community; neither can there be a deeper occasion for genuine regret, than the premature removal of such a character from the scene of his usefulness, at an hour when public opinion was on the point of stamping his labours with the meed of unqualified approbation.

In the subject of the following sketch, we have an instructive application of the foregoing reflection. Stimulated by early habit, and congenial inclination, the late Rev. Henry Berry devoted a quarter of a century of his limited life to the acquisition of the most approved systems incident to the breeding and management of live stock, but more especially to that branch which may be said to have obtained for his memory an imperishable reputation, namely, the *Improved Short-horned Cattle*. In the prosecution of such an arduous pursuit—one that called for the most enduring patience and unabated zeal, in the teeth of the most deep-rooted and discouraging prejudices—Mr. Berry closely imitated the perseverance of other celebrated men who had preceded him. From the influential examples of a Bakewell, a Culley, a Curwen, and a Colling, he was enabled to derive that confidence under disappointment, and that incentive to "go on," which constituted such praiseworthy elements in the practical lives of the above men. In one respect, however, the subject of our memoir differed essentially from the course pursued by the first of these names; for inasmuch as Bakewell was enabled to achieve what were at that period regarded as "perfect wonders" in experimental farming and cattle breeding, he took especial care to impart the secrets of his practice to no one. Possessing many excellent qualities as a man, it is to be lamented that with such a fund of valuable information as he must have acquired up to his seventieth year, the public are deprived of the knowledge of the various and tedious steps by which Bakewell approached that point of success, which his comprehensive and sanguine mind led him to hope for.

Mr. Berry, we say, pursued a course the very reverse of this. After an unremitting attention of many years to the object of his particular ambition, and fortified by conclusions which involved a series of unerring principles necessary to the production of a more perfect breed of animals, he took up his pen, and, in that clear and luminous style that characterises all his literary expositions, he (in 1824) published a valuable little pam-

phlet, dedicated to Sir Charles Morgan, of Tredegar, entitled—“*Improved Short-horns; their pretensions stated, and their value for general purposes placed in competition with the Improved Herefords.*” The facts and observations set forth in this publication are extremely interesting, and have gone far to shake the opinions of many who had been accustomed to regard the Hereford breed as the *ne plus ultra* of profitable stock. Among the curious particulars detailed by the author as evidence of the celebrity of the Improved Short-horns, is the fact of the bull *Comet* having been sold by Mr. C. Colling for the enormous sum of 1000 guineas, and that as much as 1600 guineas were, it seems, afterwards offered for the same animal!

The favourable reception which this pamphlet met with, coupled with the important facts that were constantly accumulating from his daily experience, induced him to follow up the principle of *promulgation*; accordingly in the following year we find Mr. Berry rewarded with an honorary medal by the Highland Society of Scotland, for a valuable essay on the question—“*Whether the breed of live stock connected with agriculture, be susceptible of the greatest improvement from the qualities conspicuous in the male, or from those conspicuous in the female parent?*” In this essay the author successfully combated the accuracy of the opinion notoriously entertained by many breeders, that certain horses or mares, (and neat cattle also,) confer striking characteristic traits on their offspring, and that such peculiarity is principally assigned to the *male*. In the arguments brought forward, strengthened as they were by a number of curious facts, Mr. Berry showed the futility of the supposition that either the male or female parent possess an *independent inherent propensity* to impress their offspring; and in explanation of the terms *high-blood* and *highly-bred*, he guarded himself against being understood as attaching unmerited value to mere pedigree unsupported by solid pretensions to excellence. What he recommended to public estimation was—“That long descent from animals all individually possessed of valuable qualities, which qualities are prominent in their descendants.” In the deduction drawn by the essayist at the conclusion of his valuable paper, it was submitted that, with our present stock of information on this subject, one only rational course of proceeding presented itself for the adoption of breeders, namely, that of *resorting to the best males*; at once a simple and efficacious mode of improving such stocks as require improvement, and the sole mode by which stocks, already good, can be preserved in their excellence.

Sensible of the benefit to be derived to the cause of “breeding in all its branches,” from a more enlarged and unrestricted discussion of such topics than could be prosecuted in the fugitive columns of a newspaper, Mr. Berry was induced, in the Autumn of 1826,

to connect himself as a proprietor (and subsequently as conductor) of the *British Farmer's Magazine*, a similar work, the *Scotch Farmer's Magazine*, having been discontinued a few months previously. It is to the pages of Mr. B.'s own periodical that breeders will hereafter turn as the source of every revelation connected with his favourite pursuit that flowed from his fertile pen.

In the very first number of the above work, under the title of “*An Agricultural Tour*,” Mr. Berry published the result of a long journey through different rural districts, embracing a visit to Chesterfield, where he inspected Mr. Thomas's herd of improved short-horns; thence he proceeded to Mr. Champion's, at Blythe, near Bawtry; next, to Mr. Whitaker's, at Burley, near Otley. The counties of Westmoreland and Cumberland next claimed his attention; and afterwards Derbyshire, and the intermediate counties to Somersetshire. At every place where attractive specimens of good farming or successful breeding arrested his progress, Mr. Berry did not fail to push the most searching inquiries, the result of which is faithfully and pleasingly narrated in his “*tour*.”

But his “*Letters on the present state of some of the improved breeds of cattle of this kingdom*,” commencing in 1827, and continued down to the latest period of his ability to write, comprise a code of information and instruction—identified with the soundest principles in rural economy—on the subject of breeding and improving our domestic animals, that perhaps ever emanated from the experience of a practical man. There is not a remark throughout these valuable disquisitions that does not bear the impress of a mind pre-eminently qualified by close observation, and the most acute discernment, to establish a conviction of the writer's hypotheses. As might be expected, these papers produced a host of vapouring disputants, who ineffectually endeavoured to set aside the principles upon which were based the most unerring results. That a lamentable falling off existed in the breeds of cattle from the predecessors of former years, was a fact so perfectly established in Mr. Berry's experience, that no attack was shirked, or un-replied to by him, nor any evidence unavailed of to demonstrate that the great extent of the evil was to be assigned to the practice of breeding in-and-in *injudiciously pursued*.^{*} The practice and success of Bake-

* In a postscript to some observations on the original character of our native breed of cattle, written in August, 1834, for the purpose of communicating the result of his inspection of the wild breed at Gisburne Park, the seat of Lord Ribblesdale, in Yorkshire, Mr. Berry says—“Independently of satisfying the curiosity I felt respecting the wild cattle, it is of some importance to have also obtained corroboration of my opinions on two questions which I have discussed. My opponents on the subject of breeding *in-and-in*, have, generally, appealed to the wild cattle in support of their theory; but my late investigation proves the wild cattle to be degenerat-

well, of Colling, and of Tomkins, were examined repeatedly, and under every view in which their respective systems could be tested; and in no instance can the charge of evasion, inconsistency, or deficiency in practical knowledge, be imputed to Mr. Berry. It is true, that in replying to some of his pertinacious antagonists, he was frequently constrained to reiterate the same arguments; but, we believe, it would be difficult to cite a single instance in which he was driven from his position by the counter opinions of sceptics and controversialists.

One of the handsomest specimens, perhaps, of the stock that engrossed his constant solicitude, was an improved short-horned heifer in store condition, and about to produce her second calf, as we meet with it embellishing his periodical in May, 1827, with this inscription—"Actonia, three years old, the property of the Rev. Henry Berry." An anecdote illustrative of the extraordinary fecundity of improved short-horned cows, may be appropriately introduced in this place. On the 25th of March, 1827, a cow of this breed, the property of Mr. Berry, in consequence of an accident, prematurely produced three fine calves, fully as large as they usually are when produced singly. This cow proved herself an extraordinary breeder. At the above period she was ten years old, and in the year 1819 produced her first calf; in 1820, twins; in 1822, one calf; in the same year twins (the three last calves being dropped within the space of nine months and a fortnight); in 1823, twins; in 1824, one calf; in 1825, twins; in 1826, one calf; and in 1827, three dead calves, as above-stated, being only about ten weeks from her full time. The twins of 1823 were dead; all the others living. Mr. Berry had at this period (viz. 1827) from other cows, in little more than the space of twelve months, five pairs of twins; and from one cow he had, within the space of twelve months, as many as *four* living calves.*

ing, and becoming nearly extinct under the system of breeding *in-and-in*. The other question to which I allude, is that of the comparative influence of the male or female parent, in conferring characteristic features on the offspring. I have frequently repeated my opinion that, under equal circumstances, there is no sexual superiority; but that *blood*, on either side, will give sire or dam a predisposing power. In this view I am further strengthened by the fact communicated to me at Gisburne, that the produce of the wild cattle, when crossed with the horned breeds, is invariably polled or hornless."

* As an evidence of the success that attended Mr. Berry's efforts to advance the public estimation of his favourite stock, the following prices were obtained at his fourth sale of improved short-horns, on the 11th February, 1834:—Lot 1, two years old, 24*l.* 3*s.*; lot 2, ditto, 36*l.* 15*s.*; lot 3, ditto, bought in—45*l.* bid; lot 4, three years, ditto; lot 5, three years, 29*l.* 18*s.*; lot 6, calf sold with the foregoing; lot 7, three years old, 30*l.* 9*s.*; lot 8, three years, 38*l.* 17*s.*; lot 9, eight years, 38*l.* 12*s.*; lot 10, nine years, 26*l.* 5*s.*; lot 11, heifer calf, 15*l.* 15*s.*; lot 12, ten years, 36*l.* 15*s.*; lot 13, ten years, 48*l.* 6*s.*; lot

In 1829 Mr. Berry removed from Acton Beauchamp, of which he was rector, to Persham House, Pershore, Worcestershire, a much larger estate, presenting greater facilities to his pursuits, and being, as he himself termed it, "a fine old pasture farm." The terms, however, upon which he engaged this property—the rental, we believe, being not less than 600*l.* per annum—and the inadequacy of the results to the anticipations he had formed, determined him, at the end of three years, to remove to a less expensive, and more congenial district. That the knowledge acquired during his residence at Pershore was purchased somewhat dearly, may be inferred from his own expressions in replying to a correspondent. Having stated it as his opinion that a whole district of rich permanent pasture is not only *not* requisite for a breeding stock, but altogether unfitted for it; Mr. B. says—"so fully am I convinced of the comparative unprofitableness of old permanent pasture farms, and their many inconveniences, such as floods and want of tillage for straw and turnips, that I am removing my stock (August, 1832) from the 'hot-bed' of Pershore—which, by-the-bye, has proved rather a *wet* bed—to the hills of Monmouthshire,* where, if I cannot obtain so full a bite of grass during summer, I can at least *equalize* the indulgencies of my cattle, and avoid the pernicious absurdity of cramming in summer, when it is least wanted, and starving, both as to food and litter, during the severity of winter.

In 1830, in consequence of a visit in the previous year to the Island of Anglesea, which presented an opportunity of noticing the state of Agriculture, and the breed of cattle peculiar to those parts, Mr. Berry published an excellent paper under the title of "*Suggestions for the consideration of the Landed Proprietors and Tenantry of the Island of Anglesea.*" The purport of these suggestions was to inculcate in the minds and practice of the rural classes of that section of the principality, his own implicit conviction that, notwithstanding the apparent humidity of the climate, it was, together with a large portion of its grass-land, as well calculated for breeding and maturing our larger descriptions of cattle, as most of the districts appropriated to that purpose in England; in short, that it appeared to him to be more favourable than many parts of the country in which short-horns, Herefords, and long-horns, are kept to the best advantage. Some well-merited compliments are paid by Mr. Berry, in the course of his "*Suggestions*," to the cross-bred stock of Colonel Edwards, of Nanhorren, which he strongly recommends to the inspection of every person who has the improvement of young stock at heart.

14, two years old bull, 39*l.* 18*s.*; lot 15, one year old ditto, 45*l.* 3*s.*; lot 16, bull calf, 15*l.* 15*s.*; lot 17, ditto, 31*l.* 10*s.*; lot 18, ditto nine weeks old, 32*l.* 11*s.*

* Great Dinham, near Chepstow.

Mr. B. was of opinion that the Anglesea farmer, who is not disposed to change his stock by the entire substitution of the Scotch cattle, might safely cross the two breeds, certain of great improvement in value, and without any change in characteristic marks.

Having at this period established for himself a high reputation as a breeder of short-horned cattle, Mr. Berry's judgment was deferred to by the most eminent agriculturists in the kingdom, and his services now became in constant request at the principal annual exhibitions of prize stock; hence at the Bath and West of England, Manchester, Liverpool, Derbyshire, Northamptonshire, Chesterfield, Tredegar, and other agricultural societies, we find Mr. B. dispensing the benefits of his experience, in the character of judge, with the highest approbation. Nay, even in Scotland his presence has been solicited to discharge a similar function at the East Lothian Society. "The judges, and thanks for the satisfactory manner in which they performed their arduous duties," was invariably the toast wherever Mr. Berry constituted one of the party so complimented.

In addition to the foregoing testimonies of his merit, Mr. Berry frequently received other and substantial proofs of the high estimation in which his opinions were held. The Liverpool Agricultural Society having proposed, as the subject of an Essay, "*The breeding and rearing of cattle, and the most approved system of farming in all its branches best adapted to the districts of the Society*," Mr. B., ever anxious to extend the limits of useful knowledge, dedicated his attention to the question, and produced an essay which received the unanimous approbation and gratitude of the members. The sum of ten guineas was awarded to its author by the society. On that occasion Lord Molyneux (the Chairman) said that "the last premium which they had heard read was, according to the regulations of the society an honorary premium; but no pecuniary reward that could be given would repay the talent that might be shown in writing an essay or publishing a book which would prove of use to the agricultural community." His lordship concluded by proposing "the health of the Rev. Mr. Berry, with thanks to him for his able essay."

The Manchester Agricultural Society of the same year also awarded him a premium of seven sovereigns for a prize essay, "*On the breeding of cattle*." In the following year Mr. Berry was again honoured by further and more signal proofs of the esteem in which the same institutions held his high attainments: at Liverpool, a "a piece of plate," and at Manchester, "a silver waiter," were presented to him, accompanied by the most cordial and flattering demonstrations; the first was the reward of an essay "*On the breeding of cattle*;" the second, for "*The best Essay on Farming*."

In the summer of 1833, Mr. Berry paid a visit to Mr. Coke of Norfolk, and, in com-

pany with his friend, Mr. Hillyard, of Thorpe-lands, had an excellent opportunity afforded him of inspecting the stock and practices pursued at Holkham, and of discussing with its venerable proprietor divers and multitudinous topics relative to the customs and husbandry practices of the farmers in that part of the kingdom. It is scarcely necessary to repeat that Mr. B. was anything but selfish in his Geographical acquisitions; whatever he imbibed, he quickly imparted. Immediately on his return he published his highly interesting tour under the title of "*A few days at Holkham*." And at the latter part of the same year he took advantage of his presence at the Manchester Agricultural Society to propose the "health of Mr. Coke," with a view of informing the Lancashire farmers of the gratification and benefit he had derived from his visit to Norfolk. "In proposing the health of the first agriculturist in Europe—Mr. Coke of Norfolk—I shall not (said Mr. B.) occupy your time by attempting to describe the masterly operations which have converted an unsheltered and sandy waste, tenanted by a few wretched rabbits, into a land crowned with the blessings of increase. I will not attempt to show how Mr. Coke's skill has been exerted in crossing his Southdown sheep with the Hampshire, so as to place them, in point of profit, before any other breed in the island; neither will I, in this place, enter on any description of his beautiful Devon cattle, which now fatten where the rabbits starved. Mr. Coke's success in those various pursuits is well known all over Europe. It is on another account I wish to bring him now before your notice. It is as a pattern for landlords! I have had the happiness lately to spend a few days with him, and have been enabled by his kindness to become acquainted with his tenantry and their farms. I there witnessed every thing that can be conceived of liberality and consideration on the part of a landlord—every thing which could be expected from a prosperous and grateful tenantry. To witness it was delightful, and it would have been unnatural not to have expressed that delight. I did so; and what was Mr. Coke's emphatic reply to my expression of approbation of his conduct as a landlord? He replied, 'Sir, they may all do it; and they would reap a more solid satisfaction from such a discharge of duty than they can from any other course of conduct.' With such an example before them, I would say to the landlords of England, 'you may all do it.' To the tenantry I would say, 'it is your interest and your duty to encourage your landlords to do it.'"

Of Mr. Berry's early days, we may quote his own words as they appear in a rejoinder to an attack by one who (under the title of a "Lancashire Farmer") thought proper to impugn not only the soundness of his decisions as a judge, but to question the correctness of the opinions advanced by him in two essays for which honorary premiums had been

awarded by the societies at whose instance they were written: one of these societies belonged to his native county. "Respecting the pretensions, (says Mr. B.) of so humble an individual as myself, the 'Lancashire Farmer' may well feel little inclination to inquire. For his own sake, however, he might as well have considered possibilities, as the following statement will show;—I feel proud to say I was born among the enterprising inhabitants of the county of Lancaster, and spent twenty-five years of an active life in making myself acquainted with every part of it; and when, for the first time, I travelled by the railway, I merely renewed an old acquaintance with almost every mile of the county it intersects. I had, from earliest youth, an eye to farming, and can truly say, that during three of the most active years of that period, I rode on horseback in every part of the county, particularly by the cross roads, not less than fifty miles a week. These are my grounds for presuming to be acquainted with the soils of Lancashire."

In July, 1835, Mr. Berry published a portrait of an improved short-horned heifer—a handsome animal—bred by himself, and (as the description on the plate informs us) "a daughter of his bull Wharfedale, and his cow Prima by Nestor. She was fed by Clarke Hillyard, Esq., and exhibited by him for Earl Spencer's premium, at the Northamptonshire Farming and Grazing Society's meeting, which she won. She was also shown at Smithfield, and commended by the judges; she was about four years and ten months old at the last-named period, and estimated to weigh 18 scores per quarter."

From this time the mortal usefulness of this zealous friend of his species was fast hastening to a close. His constitution, never a robust one—was rapidly breaking up: and though he lingered on for twelve months longer, it was but too perceptible to those around him, that his sands were nearly run. On the 24th of August, 1836, he terminated his earthly career, at Liverpool, "after a painful and lingering illness," and at an age when men are ordinarily considered to be in the prime and vigour of their days: he had not, we believe, reached his 44th year.

In a few weeks afterwards his entire stock of short-horned cattle—which had been gradually reduced by occasional sales—was consigned to the hammer at Mr. Lucas's Repository, at Liverpool.

To Mr. Berry's valuable labours as a cattle breeder and experimental farmer during a short but active life, posterity will not fail to do justice; they are such, indeed, as will at all times command the tribute of public gratitude. In his agricultural writings—the diction of which is always polished, and sometimes elegant—the most determined disputant found in Mr. Berry an honourable, a high-minded, and a gentlemanly opponent. Diffident almost to injustice, of what he was

known to possess in a transcendent degree, he ever kept in view, as a golden rule of life, that while "grievous words stir up anger," it is the virtue of a "soft answer to turn away wrath." I am resolved (he would say to a querulous casuist) to take nothing which has been written on this occasion in a personal sense; because I have reason to believe it not so intended; or, if intended, written under misapprehension." Again, of his attainments he would thus modestly speak—"The little knowledge I may possess on the subject of breeding, has been to me difficult of attainment, and has been laboriously toiled after."

It was Mr. Berry's good fortune to enjoy the personal friendship of some of the most exalted men of the present day—exalted less by the distinguished titles that adorn their worldly position, than by the many noble virtues that inspire their fellow-men with delight when lisping their names. The Earl of Leicester, Earl Spencer, Sir Charles Morgan, and a host of other magnates, constituted a circle of which it was Mr. Berry's happiness and pride to be deemed an acceptable member.

If such estimable qualities are associated with a man's name in his intercourse with *the world*, how much more highly are they to be prized when we find them blended in a *minister of the gospel*. "Mr. Berry had duties to perform (says a brief notice in his own publication) as a minister of a very large parish in Liverpool, which necessarily occupied a considerable portion of his time; and there is no question but a rigid observance of those duties tended to hasten that calamity which his friends so much deplore. As a proof of the high estimation in which he was held by his congregation, it is only necessary to say, that the chief part of them attended his funeral, and afterwards subscribed for the purpose of raising a monument to his memory."

Mr. Berry had no children, but has left an amiable wife to mourn her bereavement. *Requiescat in pace!*

SMITHFIELD SHOW.—Amongst the implements exhibited in the Cattle-yard, the Weighing Machine of Mr. Bather attracted our notice. It is of very simple construction, being in the form of a sack-truck, on wheels such as is used in lofts and mills for moving sacks of grain and flour, and which may with the greatest facility be converted into a machine for weighing articles of any kind, either in the field or elsewhere, thereby performing the double office of a working tool and a weighing machine. Mr. Bather has, we find, fitted a bushel measure to it, by which its general utility will be very much enhanced.—(See *Advertisement*.)

GENERAL STATEMENT OF THE EXPORT OF PROVISIONS, FROM THE PORT OF WATERFORD. FOREIGN AND COASTWAYS,

For the Year ending the 30th of APRIL, 1835.

For what Ports	BEEF.		PORK.		Bacon.	Butter	Lard.	Wheat	Oats.	Barley	Flour.	Oat-meal.	Bread.
	Tierces	Brls.	Tierces	Brls.	Flitches	Cwts.	Cwts.	Brls.	Brls.	Brls.	Cwts.	Cwts.	Cwts.
London	..	..	667	1314	335451	79838	14377	997	83029	23875	6850	..	150
Liverpool	33	..	..	244	2532	28348	1275	34275	176	4536	262229	10474	..
Bristol	..	..	..	13	7887	2421	206	23503	14571	3421	14915	2	185
Portsmouth ..	..	..	..	172	30126	3262	1607	598	22013	5934	3305	260	..
Plymouth	..	..	..	..	100	252	..	2019	3851	762	2962	..	..
Falmouth	..	..	..	..	1954	33	24	1488	13416	1575	60666	..	40
Penzance	..	..	..	..	..	..	..	1487	600	7252	..	..	..
Swansea	..	..	..	..	16	..	..	116	390	50	37634	..	60
Gloucester	..	..	10	1927	591	109	7	10906	7726	9418	5	40	..
Newport	..	..	..	..	270	..	2	1380	100	10435	..	..	..
Cardiff	..	..	..	..	220	..	..	3000	..	56501	20	60	..
Southampton..	..	..	..	..	2699	282	132	14371	2510	340	60	..	..
Shoreham	..	..	5	7	8797	2413	438	15946	1510	167	..	..	..
Milford	..	..	..	..	4	..	..	..	..	7625	..	..	..
Newhaven	..	..	..	..	2862	615	63	9819	1168	975	175	..	..
Arundel	..	..	..	..	4293	237	164	670	250	105	..	..	..
Neath	..	..	..	..	..	..	..	..	..	1675	..	..	..
Poole	..	..	..	10	..	..	..	1330	..	..	..	..	..
Penryn	..	..	..	..	..	..	721	800	200	2912	..	15	..
Chichester	..	..	..	..	..	60	..	2580	1112	100	325	..	..
Cardigan	..	..	..	..	..	..	..	..	..	4560	..	50	..
Weymouth	..	..	..	..	..	67	..	1800	250	80	..	..	..
Exeter	..	..	..	..	..	..	..	780	..	..	..	..	..
Truro	..	..	..	..	..	..	..	477	188	1830	..	..	..
Cork	..	..	..	..	..	..	..	..	650	..	..	..	..
Belfast	..	..	..	..	..	..	..	..	..	2000	..	..	..
Dublin	..	..	..	..	..	..	..	..	1007	2302	..	..	..
Newfoundland	..	..	429	..	..	52	..	15	..	..	..	681	..
Miramichi	..	..	20	..	..	..	..	..	..	..	..	..	..
Guernsey	..	..	..	..	..	..	..	360	307	..	..	..	..
	33	.	672	2219	399138	118471	18397	63775	203167	57731	496838	11321	1281

VALUE OF THE EXPORT OF PROVISIONS, FROM THE PORT OF WATERFORD, for the Year ending the 30th of April, 1835, according to the preceding General Statement.

33 Tierces Beef	at	130s.	£214	10	0
672 Ditto Pork	—	90s.	3,024	0	0
2,219 Barrels Ditto	—	46s.	5,103	14	0
399,138 Flitches Bacon	—	26s.	518,879	8	0
118,471 Cwts. Butter	—	80s.	473,884	0	0
18,397 Do. Lard	—	50s.	45,992	10	0
63,775 Barrels Wheat	—	21s.	66,963	15	0
203,167 Do. Oats	—	12s.	121,900	4	0
57,731 Do. Barley	—	14s.	40,411	14	0
496,838 Cwts. Flour	—	16s.	397,470	8	0
11,321 Do. Oatmeal	—	12s.	6,792	12	0
1,281 Do. Bread	—	12s. 6d.	800	12	6
4,410 Head Cattle	—	140s.	30,870	0	0
1,858 Live Sheep	—	45s.	4,180	10	0
58,313 Do. Pigs	—	35s.	102,047	15	0
Total			£1,818,535	12	6
Ditto 1834			1,816,469	2	6
Ditto 1833			2,090,457	10	6
Ditto 1832			2,065,861	5	1
Ditto 1831			2,121,687	8	0

We submit this statement of the imports into England, from ONE Irish port for the purpose of directing attention to the immense amount of agricultural produce which must be imported annually from the Sister Island. The capabilities of Ireland are well worthy the consideration of the Statesman and the Agriculturalist.

NATIONAL AGRICULTURAL INSTITUTION.

TO EARL SPENCER, THE PRESIDENT, AND HIS GRACE THE DUKE OF RICHMOND, ONE OF THE VICE-PRESIDENTS OF THE SMITHFIELD CLUB.

MY LORDS,—The farmers of England are highly indebted to your Lordships for the interest you have long taken in agricultural affairs, but more especially for your proposition at the Smithfield club dinner, of establishing in England a society resembling the Highland Agricultural Society.

No one is more desirous than myself of seeing this accomplished, and I felt much regret when the meeting was over, that, as I had the opportunity, when returning thanks for the honour conferred on me, in drinking my health as president of the Northamptonshire Farming and Grazing Society, I did not then enter on the important subject brought forward by your Lordships. I had not the vanity to suppose that at that late hour in the evening, it was possible for me to gain the attention of the meeting, after it had been addressed on the same subject, in so clear and able a manner by your Lordships. Having, however, formed opinions on the subject, I trust your Lordships will excuse my thus making them public through the medium of the *Mark Lane Express*.

It is the present opinion that farming is in its infancy. I really believe that great improvements may be made in agriculture, by the aid of chemistry, of which science there is scarcely a farmer in England, including myself, who knows any thing. But there are other aids from which, if generally extended throughout the country, as they are by your Lordships and by other liberal large landed proprietors, much of the poorer soils of the kingdom would soon share perhaps as great improvement of cultivation as they are likely to do from the aid of chemistry.—Possibly it never can be expected, but I feel assured that if all the occupiers of the poor soils had that confidence in their landlords, which the tenants under the Earl of Leicester have, I should not have seen after I left Holkham last September, in an agricultural tour of about 700 miles, such a great extent of poor land so very sadly cultivated, occasioning not only a loss to the owners and occupiers of the land, but to the public generally. In some cases this bad management may have arisen from indolence on the part of the farmer, in others from want of capital, in others from parsimonious motives, a determination to farm at as little expense as possible, saving perhaps in their expenditure of labour 50*l.* per annum, and losing in a decrease of produce, to the amount of 100*l.* per annum.

No good ground of complaint exists at this time as to prices not being remunerative. At no time, however, can bad farming be justified, for it is most certain if good farming does not answer, bad farming must assuredly turn to a much worse account. If the tenantry throughout the kingdom could but feel the same confidence as I heard expressed three years ago by one of Mr. Coke's tenants who had been but two years an occupier of a large farm of poor land, "My best bank, Sir, for the capital I possess is my farm, a part of your estate," the beneficial effects would be widely and sensibly felt. It is said that at a public meeting held a few years ago, on agricultural distress, a true bred Norfolk farmer got up and said, "If all landlords would due as Mr. Coke does, tenants would due better than they due due." Nothing is so likely to bring about that most desirable feeling of confidence between landlord and tenant, as the estab-

lishment of a society such as is proposed by your Lordships, which must be the means of exciting emulation among practical farmers, and amongst the many other advantages that may confidently be expected to flow, is the bringing together landlords and tenants, thereby enabling landlords generally to become better acquainted with the duties of a tenant, and better qualified to judge of the reasonableness of any request that tenants may make, instead of the general practice of leaving those matters entirely to agents, some of whom only keep one object in view, namely, the rent roll.

I conclude that in the proposed establishment of a National Agricultural Society, these several objects are contemplated. An Exhibition of Cattle, of Agricultural Implements, of samples of all kinds of grain, of all the different varieties of roots and grasses; samples of all the different kinds of soil, of lime, marl, and limestone, the qualities of all which to be explained by competent persons appointed for that purpose. As the Smithfield Club is going on so prosperously, no expense need be incurred for the exhibition of cattle, but it is to be hoped that another year will not pass away without changing the place of exhibition, and getting one worthy of a show of cattle, not to be equalled in any other part of the world. At the late cattle-show, those who had paid for admittance, and could endure the squeezing of an immense crowd, might by perseverance, get to see the tails of the oxen, but as to being able to examine them as to their form and fatness it was quite out of the question. If a proper place was found, I am convinced that a very large sum of money might be annually collected. Of course, in the proposed society there will be prizes for the best implements, the best samples of different kinds of grain, roots, and grasses. Also, for the best Essays on the breeding and feeding of cattle, and on the cultivation of the different varieties of soil. Scientific persons will of course be appointed to explain what improvements are capable of being made by Chemistry in the cultivation of the land. To have this ascertained is certainly most desirable, but I confess although I believe much good may accrue, I am not so sanguine in my expectations as many are, that such wonderful discoveries will be made, to prove that which is so generally asserted that farming is in its infancy. If the science of farming is yet as an infant, I can, with truth say, that in many parts of the country the infant at this time in the practice of farming is sadly neglected; that I believe if this infant knowledge was carried to the extent it is capable of, I feel assured the gross produce of the soil might be increased one-third, and thus the full wants of the present population of the country be amply supplied. In saying thus much I do not mean in the least possible manner to attempt to damp the prevailing ardour for establishing the society, but on the contrary, I, in common with other practical farmers, am most desirous of obtaining knowledge which we are at this moment in perfect ignorance of, namely, the properties of and the proper application of lime. That it should be clearly explained why lime, which heretofore has been supposed to be effectual on all bogs, should be found useless on Chat Moss. In my late tour I saw lime throughout a whole district applied in a way I thought decidedly wrong—spreading it on the surface of a clover ley, about to be ploughed, and thus applying that to the sub-soil which they intended should do good in the surface-soil. But to advert to the best mode at present known of farming, I will here repeat what I have said in that part of my farming publication under the head of "Farm-

ing in its infancy,"—that nature will bear forcing, to a certain limit, beyond which if it is carried the increase of quantity of produce will be only in the straw, not in the grain. The produce of grain may certainly be increased by a more careful selection of the most prolific varieties, than has hitherto in general been made.

I am inclined to think that the average prices of grain for seven years to come, will, with the present necessary expences, be something under remunerating prices to the farmers. It is most certain that the chief part of the best practical farmers of the present time are ignorant of the powers which Chemistry may possess, in its application to the land. If from some process at present unknown, the land can be brought to produce a greater abundance, or that good cultivation with the aid of chemistry can be carried on at less expence, this will not only benefit the occupiers of the land but the public in general. If the sanguine expectations from the aid of chemistry should not be realized, other substantial benefits must arise from the establishment of a Society like the one proposed. I cannot for one moment entertain the idea that any landed proprietors will withhold their support for the formation of the Society from any political feeling. I feel assured that your lordships will be supported, not only by all owners and occupiers of land, but by many persons engaged in commerce and manufactures, who see in its true light that the interest of agriculture and commerce are inseparable, and also by all persons who take an interest in that great source of the wealth of their country, the produce of the soil. I have the honor to remain,

Your Lordships' most faithful servant,

C. H. HILLYARD.

London, Dec. 23, 1837.

SHREEVE'S SWAFFHAM PATAGONIAN CATTLE CABBAGES.—These extraordinary vegetable productions, now growing upon a small spot of ground in Swaffham, Norfolk, in the occupation of James Shreeve, gardener and nurseryman, merit the attention of public inspection, and particularly the farmer or agriculturists. From off this piece of ground, containing about $4\frac{1}{2}$ perches (which had been barren and unproductive previously to Mr. Shreeve's occupancy), were grown 174 cabbages, weighing from 20 to 30 and 40 lbs individually, of fine quality (the moiety of which are now vegetating thereon), and upon the average 25 lbs. avoirdupoise each in weight. It has been also proved that one of these given to a cow with the usual quantity of fodder, produced more milk in one day than any portion of turnip food the animal could reasonably eat in a similar space of time. Previously to the removal of the cabbages to this spot, Mr. Shreeve, by his extraordinary care and culture, had on the same ground a *crop of early potatoes* planted in March last, which produced nearly three sacks; and between the rows of potatoes he had ridges of early York cabbages, to the number of 425, weighing upon the average 2 lbs. each; consequently the produce proves as follows:—viz. first, potatoes, 3 sacks; second, 425 cabbages, weighing 850 lbs. or 7 cwt. 2 qrs. 10 lbs.; third, 174 cattle cabbages, weighing 4,350 lbs., or 1 ton 18 cwt. 3 qrs. 10 lbs., making altogether the extraordinary produce and weight of 5,200 lbs., or 2 tons 6 cwt. 1 qr. 20 lbs., all grown upon the $4\frac{1}{2}$ perches previously stated, from March last to the present time, which is equivalent to 176,630 lbs., or 78 tons 17 cwt. 6 lbs. per acre,

ON AGRICULTURAL SCHOOLS.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—No one more heartily rejoices to witness the great progress making in all directions towards perfecting the agriculture of this country than myself; and no one would be more gratified in adding a trifle towards promoting an object so desirable, trusting that the suggestions I now throw out will be taken up by those who are much more competent to do justice to the important subject thus introduced. It has always been to me a source of regret that amidst all our improvements so little attention has been paid to the agricultural education of our youth intended for farmers; I *well know* the difficulties and perplexities which attend the first years of most of our young farmers. They have to run a course of painful anxiety attended with great sacrifice of property before experience becomes matured, and not unfrequently their prospects in life are for ever blighted; chiefly from not having their ideas of business properly directed. I need not occupy your columns in multiplying arguments on this matter, they will most readily suggest themselves to every one; my object is to apply a remedy. I propose the establishment of agricultural schools throughout the country, in which the most approved system of practical agriculture shall be taught, combining also a modicum of both experimental and theoretical agriculture; and I would do it in this way:—I propose that our leading agricultural societies should take the subject up and appoint committees for the purpose of examining into the qualification of any person wishing to open a school upon such principles; and I doubt not the testimony of such examining committee would have great weight with all who are engaged in the education of youth. I wish the public to be guarded against committing the care of the rising race of farmers to incompetent or improper parties; on the other hand I see no sufficient reason why many of our most intelligent and respectable farmers should object to open their doors to forward an object so fraught with universal benefit as this must ultimately be; I am sure nothing would yield me greater pleasure, were my abilities equal to the task, then to engage in the instruction of our young agriculturists, and in promoting their improvement and best interests. I invite the attention of your readers to the subject. I have made agriculture my study as well as my business for many years, and the more I know of it the more I discover the comparatively slight progress that has yet been made in this most ancient as well as most interesting science, the art of "*replenishing the earth.*" I am heartily glad to find it is becoming a much more general study than formerly, and studied too upon scientific principles, and will, I doubt not, in time be conducted upon such principles. I am sanguine enough to think that the fertility of the soil will yet be astonishingly increased. The rotation of crops discovers to us in a measure that though it is exhausted of that which forms the food of one plant, yet that it will produce another luxuriantly, and this plant again will nourish and enrich it for a succeeding crop. I do not think much has yet been done in this department of agricultural study, in the attainment of the knowledge of how much the soil is exhausted by any particular crop, and how such loss can be chemically restored; I trust more attention will be given to the chemical analysis of plants with a view to render them useful as a manure, there are many which upon distillation produce a very powerful spirit: when will these be extensively applied

towards renovating the soil? I do not think the time is far distant when liquid manures of this nature will be generally used with great benefit. I long to see the time when I can carry manure sufficient for an acre of land in a quart bottle as hinted at in your late number, and I do not despair of seeing it; I am an old experimentalist and have tried two or three experiments in this way with fair prospect of success. I again invite the attention of your readers to this matter. If you deem the above worthy of insertion in your very valuable magazine, you are exceedingly welcome to do so.

And remain your obedient servant,

PURVEYOR.

ON ASSESSING OWNERS OF COTTAGES TO THE POOR-RATE.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR.—There is a measure now under the consideration of Parliament, the object of which is to procure an act for subjecting the owners of small properties, *i. e.*, cottages and small tenements under a certain amount of annual value, to the payment of the poor-rates, instead of the occupiers. Surely it must be considered that the advocates of this measure have lost sight of the sound principles of political jurisprudence! The basis upon which such a proceeding must be founded, is not only in direct opposition to the established rights of individuals as regards the security of property, but a violation of the maxim which has hitherto secured to the fundholder the enjoyment of his wealth, without the liability of contributing his quota, towards the maintenance of the poor. In the long disputed question of paper versus gold, the iniquity of borrowing money in one currency, and paying it off in another of less value was mainly insisted upon, in short, to depreciate the value of any description of property by legislative enactments, in which investments have been made on the faith of existing circumstances, has always been considered impolitic, and unjust if no compensation is provided for the sufferers by the new law, of which I presume a more notable instance need not be advanced, than the remuneration granted by Parliament to the West Indian slave owners for an infringement upon the assumed rights, by the abolition of the slave trade, although their immense profits were derived from a source of contraband traffic, and supported by measures contrary to the avowed principles of justice and humanity!

The question has been put to me, Why should not A., who is receiving 100*l.* or 200*l.* per annum from the rental of small tenements, be assessed to the poor-rates in respect of such property, as well as B., who has a similar amount of capital employed in the cultivation of the soil? To which I answer, For this simple reason—that as A. invested his capital in the purchase or the erection of cottages, under the faith of existing laws, which seemed to him an exemption from that imposition, and B. contracted for the lease of his farm, with the full assurance that it was subject to such a contingency, there can be no possible reason why a portion of the burden should be removed from the shoulders of B., who had knowingly and voluntarily taken it up, and placed upon the shoulders of A., who had now no other alternative, than that of seeking indemnity by advancing the rents of his poor unfortunate tenantry, or of suffering

his property to fall into dilapidation, previous to the abandonment of that principle which has hitherto provided the poor with habitations, and the industrious labourer with a house to shelter him. But let us endeavour to investigate this measure in connexion with the act to regulate parochial assessments. We know that hitherto, all property has been assessed or assessable to the poor-rates in respect to occupancy, and not to the ownership. This principle it is true is broken in upon by the Tithe Commutation Act, 6 & 7 Will. IV. c. 71, s. 70, by which it is “enacted that all rates and charges to which any rent-charge is liable, shall be assessed upon the occupier of the lands, out of which such rent-charge shall issue,” and that such occupier “shall be entitled to deduct the amount thereof from the rent next payable by him, or to recover the same by all other lawful ways and means, from the owners of the rent-charge,” but then it should be remembered, that a bonus is first given to the Tithe-owner, to enable him to liquidate the contemplated expenditure, which shall hereafter present itself in the shape of parochial charges. We know also, that in making the assessments under the new act, regard is to be had to the fair net annual sum at which the property so assessed is worth to let, as the standard of its value.

Now as the rent which is paid by the occupier of a farm, is clearly an outgoing and an incumbrance upon the occupation, it can have no possible reference to his real ability to set apart a sum proportionate to that rent, in order to meet the exigencies of another outlay and incumbrance, except upon the principle, that all lands in proportion to their quality, ought to make a certain return for the amount of capital employed in their cultivation; say for instance, that moderately good land, which does not require an extraordinary expenditure for manure, for draining, and for such like purposes, is calculated by the incoming tenant to make an annual return of three rents; one of which is to be set apart for his landlord, one for the expences of cultivation &c., and the other, as belonging to himself. He may engage his farm under this impression; he may have carefully compared the average prices of grain during the last seven years, and judiciously calculated the incidental expences of the cultivation; still the risk is with himself, and at the end of his term, he may be miserably disappointed, notwithstanding which, he is charged with the maintenance of the poor, in proportion to his one-third of the returns arising from his occupation, with all its casualties to encounter; whereas, his landlord is not to be charged one penny for the same purpose, upon an income arising from the other third, with no deductions to apprehend! I do not advance this argument as a matter of complaint, but I do exclaim against the gross injustice of subjecting an inferior description of property to the payment of the poor-rates in respect to ownership, while the superior, the whole of the landed property in the kingdom is wholly exonerated from such an imposition.

Cottage property is bad enough now in all conscience; certainly it does not realise more than sixty per cent. of the nominal rentals, after deducting losses and repairs; and I know full well, that the general feeling with respect to this measure, is, that if carried into effect, it will be productive of most unpleasant and most injurious consequences; the owners of small tenements cannot afford, and will not take this additional burden upon themselves, they will either increase their rents, or they will seek to indemnify themselves, out of the small fund which they have hitherto been able to appropriate to charitable purposes in one shape or other—under any circum-

stances, either the poor must be the sufferers, or the price of labour must be advanced in a relative proportion to their increased expenditure; and after all cases of hardship, as regard the aged and infirm, will multiply, and the inmates of the workhouses will increase in number, in the same proportion as their local habitations disappear from off the face of the earth.—I am Sir, yours, very respectfully.

Dilham, Dec. 15 1837.

W. NORFOLK.

ON COVERINGS FOR RICKS.

In wet seasons and in late harvests very considerable loss is often sustained by farmers, both from damage of the crop in the field and also in the rick-yard before the ricks are thatched and secured. Hay harvest is subject to the same chances of loss by the wetness of the season. In the early and more steady climate of the south, less damage on an average of years will be occasioned: but in the northern parts of the kingdom where more rain falls, and where the harvest is later, much unavoidable loss is often sustained. The grain is often damaged from long exposure in the field, and when carried in a damp state, heating in the rick often follows, and renders it necessary to turn the rick, and often to cart it back to the field. On large farms, and during favourable weather, reaping and carrying go briskly forward: and before any opportunity of thatching occurs, a change of weather takes place suddenly, and a heavy fall of rain has descended deeply into the ricks. The same often happens to hay ricks; and any person who has been accustomed to extensive farming will recollect the damage and confusion created in a large rick-yard by a heavy fall of rain, where it was absolutely impossible to be otherwise, from many of the ricks being carried only a day or two previous. Extensive experience in such cases where I was personally concerned in turning the ricks, often suggested to me the idea that it would be very beneficial if light waterproof coverings could be provided to protect the ricks until thatched. On a farm of 300 acres there may be about twenty ricks. If the round form be adopted, the conical top of about fifteen feet in diameter will require from twenty to thirty yards of covering according to the height of the top. If the ricks be square, the covering would be more convenient in divisions and joined by buckles, and may be removed as the divisions of the ricks were threshed, and the hay-stack consumed. Coverings for one-third of the ricks on a farm would be sufficient, and being light could be shifted from the ricks at pleasure. The London Cauldron Company provide such light coverings, warranted waterproof and durable, at 2s. per yard, six coverings would cost about 15l., for a farm of medium size. A square hay-stack with a moderate slope would require nine yards of covering for every yard in length, or 18s.; and a rick of fifteen yards would cost 3l. 10s., and upwards of 2l. for common thatching. Such coverings for hay ricks might remain during winter and save the expence of thatching altogether: in round ricks the size would require to be nearly equal, and the coverings could be made to contract and expand to suit the ricks. A conical top would require nearly 3l. for covering, and about 18s. for thatching: an expence that may entirely exclude any attempts to introduce such coverings; but I am convinced that very considerable benefit would be derived by having a few coverings of that kind to protect the newly carried ricks until thatched. In the case of square hay ricks the advantage is obvious, both in protecting the newly carried rick, and for remaining during winter.

JOHN DONALDSON.

DRAINING PLOUGH.

The Large Silver Medal and Fifteen Pounds were voted to Mr. John Pearson, of Frittenden, near Cranbrook, Kent, for his Draining Plough. The following Communication respecting it has been received from T. L. Hodges, Esq.; and a Model of the same has been placed in the Society's Repository.

Hemsted-Place, Cranbrook, Kent, Mar. 24, 1829.

SIR,—I beg to send you, for the information of the Society, an account of the use and effect of the improved Draining Plough, invented by Mr. John Pearson, farmer, of Frittenden, near Cranbrook, in the county of Kent; together with a description of its component parts, and their sizes and proportions, illustrative of the model which I have the honour of presenting to the Society.

About six years since, Mr. Pearson hired a farm of nearly one hundred acres in the parish of Frittenden, which is situated in that district of the county called the Weald of Kent. The soil generally in that extensive district is very wet and stiff, having throughout, with very partial exceptions, a strong clay subsoil. Although it is so wet, there are very few springs. The water caused by rains and snow is held on the surface of the ground, owing to the retentive quality of the clay beneath, which hinders its sinking away. When no effectual efforts are made artificially to relieve this prevalence of moisture by perforations of the clayey subsoil, all vegetation is extremely languid until an advanced period of the summer, when the power of the sun alone shall have been able to evaporate this undue portion of water; hence the corn is late before it begins to grow, and the crops are as scanty in amount as they are indifferent in sample. This powerful obstacle to all improvement in farming became fully apparent to Pearson after the first year's occupation; and he very justly considered, that unless he thoroughly under-drained every field of the farm, manure and tillage added only to his expenses, without any chance of profitable return. Having but a very limited capital,—to undertake the effectual drainage of his farm, according to the most approved method hitherto practised in that district, was not in his power. The cost of executing such work was from 6d. to 7d. per rod, or from 6l. to 7l. per acre,—a sum obviously too large, even if he possessed the capital, for tenants of such description of land, and under the present discouraging state of British agriculture, to adventure. Nevertheless, steadily and skilfully applying his mind to the discovery of some mode of cheapening the process of under-draining, after failing in many of his first experiments, he succeeded in forming the plough which he is now submitted to the notice of the Society. His farm having been entirely drained during the last five years by the plough, at present exhibits, as I myself have very recently witnessed, the most gratifying appearance. When this farm first came into Pearson's occupation, the produce of the wheat crops usually varied from two or three sacks per acre. Since it has been under-drained by the plough, his average has exceeded four quarters per acre, not unfrequently getting five quarters.

Pearson has had the experience of five years' successful application of his draining plough before he ventured on the step of making known his discovery to the public. This invention consists in having applied to the common foot-plough a certain share, which he calls a horse share, together with certain other irons, as explained in the accompanying paper, by which he cuts out the drain to a sufficient depth, with an accuracy and celerity hitherto unattained, and

gives a principle of duration and effect to the drain, when finished, equal to the best work of the same kind hitherto entirely performed, and at so great a cost, by hand labour; thereby accomplishing what has been so much and so long desired by all who are interested in improving wet and stiff soils, namely, a method of effectually and permanently draining such lands, and at a charge not exceeding one-sixth of the price which the best under-draining of such land has hitherto cost.

Pearson justly believed his invention to be well worth the expense of taking out a patent, which he might have disposed of with considerable advantage to himself; but it having been represented to him, that if his plough became a patent instrument, the cost of procuring it would become considerably enhanced to the farmer, besides the extra charge of carriage of it from London, or wherever the manufactory might happen to be; and on the other hand, if no patent were taken out, it would soon be made by the wheelwrights and smiths in almost every parish, and thus get into general use;—influenced, therefore, by these considerations, Pearson has willingly consented to abandon all prospect of advantage to himself, by taking out a patent, and prefers addressing himself to the liberality of the public for some compensation for his time, trouble and ingenuity, to which they may consider him fairly entitled.

There is another and most important recommendation, that this discovery holds out the prospect of profitable employment for hand labour in parishes where wet, stiff soil prevails to an extent almost unlimited. This truly beneficial result has been most strikingly exhibited in the parish of Frittenden, where the inventor resides. The distressed condition of that parish was perhaps unequalled in that county, even so recently as two or three years ago. The poor-rates had amounted up to twenty-three shillings in the pound—almost all the labourers were thrown upon the poor-rate—and as the only residents in that parish besides the curate were merely farmers, for the most part tenants of small farms similar to Pearson's, a remedy for its distress seemed utterly hopeless. But the attention of the farmers being at length attracted by the unusual crops of all descriptions which Pearson's farm exhibited, an imitation of his system naturally followed, and the most beneficial effects upon the population of the parish have been the consequence; accordingly, since the draining plough has become generally used, they have no labourer out of employment, the rate of wages has risen, and the poor-rate has fallen from twenty-three to twelve shillings in the pound, and is still decreasing. The writer of this paper is entirely convinced that the adoption of this instrument throughout the district in which he resides will yield a benefit to every farmer equal to the whole amount of his annual poor-rate. By giving also, as is now done, to the labourers employed in this mode of draining, an increase of wages, in order to encourage them to execute their work carefully and expeditiously, the most gratifying improvement has followed in the condition, behaviour, and prospects of the workmen. In addition to these advantages, there exist the best grounds for believing that the severe calamity in the grazing interests of the country, the rot in sheep, will be greatly mitigated, if not wholly got rid of, by the complete drainage of land, which this invention places, at so cheap a rate, in every one's power.

I am, Sir, &c. &c.

A. ATKIN, Esq. THOS. LAW HODGES.
Secretary, &c. &c.

THE NEW PAROCHIAL ASSESSMENT ACT.

(FROM A CORRESPONDENT.)

This salutary measure which has been so much wanted in nearly every parish, particularly in the rural districts, is now being thwarted by the selfish feelings of the inhabitants of many districts, for instead of having the lands and buildings of a parish reviewed and equitably assessed, they are blinking the measure and adding a third or fourth to each person's old rate, and calling it the rack rent; this is but sowing seeds for future litigation, appeals will be continually had recourse to, as they can now be so easily heard by a bench of magistrates, a parish will never be at peace until the assessments are properly adjusted: on most well regulated parishes, a surveying committee is appointed, who, previous to every new rate, go to those points of the parish where improvements are going on, to view buildings and additional value added to the land, so that every thing should be equitably assessed, and not depend on the mere view of a collector of rates to say what should be added; in many parishes, the property assessed is never seen by the parish officers, and much property remains unassessed or unequally so; this blinking and thwarting the salutary government measure arises from the influential persons in a parish knowing the unjust amount at which they themselves stand in the assessment book, therefore they wish to avoid an equitable adjustment of the rates, under the plea of not wishing to put the parish to any expense, although the same might be done by a committee amongst themselves, viewing each property, and having, perhaps, one or two licensed appraisers with them, who should be unconnected with the rates of the parish, so that they might be quite disinterested and act independently.

EXPERIMENT WITH POTATOES. — Mr. William Clark, jun., obtained a couple of potatoes at the Saving Bank at Boston, not as a loan but as a gratuity, last winter from a few just imported from England, which were supposed to be an excellent kind of potato. They were laid aside and forgotten till they had sprouted, and the sprouts had grown perhaps two inches. To obtain the greatest possible number of them for seed, Mr. Clark disposed of them in the following manner in his garden: The sprouts seven in number were broken from one potato, and set out about 16 inches apart, with the tops just above the surface; and the other potato itself planted with the sprouts on, allowing the tops of them to remain uncovered. After the sprouts of the latter potato had grown somewhat, they were spread apart each way and covered up with soil from their insertion at the hill to near the top of the vines, to make them spread. In doing this three of the vines were broken off which were set out to grow. These potatoes were not hilled at all; merely keeping down the weeds was all that was done to them. Mr. Clark dug the product of these two potatoes last week in our presence, and they yielded as follows:—From the hill in which was planted the potato from which the sprouts were taken, were dug 100 potatoes large and small, many of them very large, and the whole weighing 17lbs. or over a peck in measure. As the fruit of the seven sprouts were dug, 180 potatoes weighing 35 pounds, making a total of 52lbs. or nearly a bushel; as the product of one of the potatoes, one of the sprouts produced 36 potatoes, weighing 8½lbs. The other potato produced but 90 potatoes weighing 14lbs., the broken vines which were set out, producing 20 potatoes, weighing 3lbs. This experiment will afford useful information to those who may wish to propagate rapidly from a few seed, or even when potatoes are scarce, for planting.—*Hampshire, United States.*





THE GAMEKEEPER RETURNING.

Green fields and flowers, hill, dale, and valley, delight the eye and mind of the true sportsman, who sees "sermons in stones, and good in everything!" It is not the mere slaughtering and bagging a few birds that are the source of his pleasures, but that he wanders with the feelings of the poet and painter, and enjoys the

"Sweet interchange of hill and valley,
Rivers, woods, and plains."

Every description of scenery becomes familiar to him, he hears the wild birds singing their wildest songs, and derives many pleasures perhaps unknown to any but the votaries of the gun or angle; he is a true lover of nature, and

—— "Thus the men
Whom nature's works can charm, with God himself
Hold converse; grow familiar day by day
With his conceptions; act upon his plan,
And form to his the relish of their souls."

Reposing from his morning's exertions under the shadow of a tree, the sportsman sits down to eat his sandwich with the relish of an epicure, and drinks from the pure spring that issues from the rock; his dogs draw round him, lap from the same source, and look up with watchful fondness on the joyous visage of their master, while he views with secret satisfaction the contents of his well filled game-bag, which affords incontestible evidence of his masterly skill, and the excellency of his "Joe Manton," and in the gladness of his heart thinks of the presents he will be able to make on the morrow, to please the wives of his happy tenantry. He hears the shots of his friends echoed and re-echoed from the woods around him, and soon their shouts, as they meet him at the felled oak under the chestnut tree. It is a happy meeting; and, though M.P.'s, fresh from the war of mighty minds, they bury all political differences, and take a glass to all that are near and dear, and indulge in the unalloyed enjoyment of each other's society. While they were chatting, a wish stole into my heart, that they might, like the tree they were sitting on, in their prime be the pride and ornament of their age, affording protection to the poor and forsaken, sheltering the unsheltered from all the "storms that fall upon us," and when death cuts us down, as it does all things, may they leave behind them undying fame, and sons, with "hearts of oak," feelingly alive to perpetuate the glory of their sires. The party break up, each takes his separate path, and we will take ours homeward; and here a sight salutes us most gratifying to our sensations—*The Returning Gamekeeper*, a weather-beaten grey-headed old fellow, his face lit up with good humour and the setting sun, on his favourite grey pony, with his faithful spaniels at his side, his saddle well loaded with the spoils he has collected in his evening tour—together a most picturesque subject for the pencil, and one we have much pleasure in presenting as our second embellishment to the present number.

LESLIE.—TURNIPS!—AT THEM AGAIN, GINGER!—
Had the writer of the article headed Leslie, in your paper of the 19th October last, stated the weight along with the dimensions of the large turnip, reared on the

grounds of the Earl of Rothes, we would not now, in all likelihood, have had it in our power to tell, to the mortification of Mr. McNab, of Cupar, and all other subsequent writers who have inserted in the Herald and Fifeshire Journal notices of immense turnips, that they were quite in a mistake when they boasted of having outdone Lord Rothes in the rearing of that crop. But that they, and every reader of this journal, may be made aware of the degree in which each writer has been mistaken, we beg to be allowed to make a restatement of the different girths and weights of turnips so exultingly brought before the public notice, by these self-satisfied competitors for fame as turnip growers. Mr. McNab's famed turnip, it will be remembered, was one of the red-topped species. It measured nearly a yard in circumference, and weighed upwards of 12 lbs.; Mr. Chrichton's of Balfour Mains was of the white globe species, measured 38 inches in circumference, and weighed 14½ lbs. Mr. Kay's of Balbirnie Paper Mill was of the red-topped species, measured 38 inches in circumference, and weighed 16 lbs. 9 oz. Lastly, Mr. Coutts' turnip, (noticed in the last Fifeshire Journal), which was one of the red-topped globe species, weighed 18½ lbs., its girth is not told. Now, the turnip above alluded to as raised by Lord Rothes, was one of the white globe species; it measured, half way between the top and the root, in circumference, 33 inches, and from top to root around 41 inches; and when newly taken out of the ground, and divested of its top and root, weighed 25 lbs. imperial, or more than twice the weight of Mr. McNab's turnip, or 6½ lbs. heavier than that of Mr. Coutts'—the heaviest of all the turnips of these other turnip-growing competitors. We cannot afford time, like Mr. Kay of Balbirnie Paper Mill, to calculate, from these data, the solid contents of this turnip, or the number of regiments of cavalry—men and horses—such a bulk of gold, if made into gold leaf, would gild, but will at once put the reader in possession of a fact, from which he may derive a very capital idea of the size of this immense bulb. Previous to his Lordship's sending it away as a present to one of his friends in the north, he caused its pithy contents to be carefully scooped out, and had stowed away within its ample sides a haunch of venison, weighing 15 lbs., two pairs of wild-ducks, a brace and a half of partridges, and a brace and a half of snipes.—*Fife Herald*.

THE HUNTER.

(FROM BLACKWOOD.)

Merrily winds the hunter's horn,
And loud the ban of dogs replying;
When before the shout of the fleet-foot morn
The shadows of night are flying.

Sullen the boar, in the deep green-wood;
And proud the stag that roams the forest;
And noble the steed, with its warlike blood,
That exults when the toil is sorest.

Fair is the land of hill and plain,
And lonely dells in misty mountains,
And the crags where eagles in tempest reign,
And glittering lakes and fountains.

These are the joys that hunters find,
Whate'er the sky that's bending o'er them,
When they leave their cares on their beds behind,
And earth is all fresh before them.

Day ever chases away the night,
And wind pursues the waves of ocean,
And the stars are brother-like hunters bright,
And all is in ceaseless motion.

Life is a chase; and so 'tis joy
And hope foretells the hunter's morrow;
'Tis the skill of man and the bliss of boy
To gallop away from sorrow.

THE POISONOUS EFFECTS OF THE YEW TREE.

BY MR. W. C. SPOONER, SOUTHAMPTON.

(From the Veterinarian.)

From time to time there have been some cases recorded of the poisonous effects of the yew tree: such instances, however, have been few, and often solitary; and, indeed, at the discussion at the association, nearly a twelvemonth ago, on Mr. Morton's essay on poisons, there seems to have been a doubt in the minds of some of the members, as to whether it was actually poisonous, whilst others only considered it to be so when taken in large quantities. I remember some years since examining a donkey that had died somewhat mysteriously, and whose death had shortly succeeded that of a brood mare, turned into the same small pasture, in which grew a large yew tree, the branches of which were within reach of the animals, and had, no doubt, produced their death. It is desirable, I think, that all such cases should be made public; and I cannot therefore do otherwise than record the following facts that have lately come under my notice, as they are sufficient to put beyond doubt (if any can exist), the poisonous nature of the yew. Being in attendance on some horses belonging to Mr. H. King, of Fullerton, in this county, during the last month, that gentleman informed me that he had lost, in the preceding week, no less than forty ewes and lambs, from eating the yew tree. Seven hundred ewes and lambs were turned into a small pasture, on one side of which dead fence, not one hundred yards in length, had recently been made from the cuttings of this tree. These branches, however, were in a dry state, having been cut a month or six weeks previously, and the hedge had been made a fortnight before the sheep were admitted. The flock entered the field in the morning; one ewe died on the same evening, and by the middle of the next day the number before mentioned—the greater portion of which, however, were lambs. They were seized with a stupor and giddiness, and died in about half an hour. On opening them, a quantity of the dead yew was found in their stomachs, and the appearance of the hedge, which was shewn me, sufficiently testified the fact of the yew having been consumed; for the side of the hedge which the sheep could not approach presented the same appearance as when made, whilst on the other side the dead branches were quite stripped of their leaves. Many experiments were tried, with a view of saving the sheep: they were all bled, and to some, castor oil was given, and to others, croton oil; others were attacked, and recovered; and, although to some of these the croton was given, yet as many recovered that were simply bled, and had had no medicine. It is more reasonable to attribute their recovery to the circumstance of their having taken less yew, than to their having had croton; particularly as they were seized when the yew had much diminished. The croton, too, produced no purgative effect, although to one ewe no less than two tea-spoonfuls were given, and she was of the number that recovered. It is deserving of especial notice, that in these cases the poisonous effects were produced by the yew in a dead state; when, perhaps, most people would have thought it altogether unlikely to occasion mischief. Such facts as these I have recorded should be as widely circulated as possible; for although we are told that experience taught is better than experience taught, yet there are few agriculturists, I take it, but what

would prefer reading such instances in a journal to feeling their effects in their own pockets. The owner was unaware of its poisonous nature, and he says it is the last time he intends making a fence from the cuttings of the yew tree.

LABOURERS' FRIEND SOCIETIES.—The Society at Hadlow, Kent, has drawn up its second report. The facts which it states are the following:—32 families have been received into the society, to whom were let eight acres of land, being 40 rods to each, at the rate of 40s. the acre. During the first season some of the tenants produced a crop worth at the rate of 32l. per acre, and this, it should be borne in mind, was effected during the cottager's leisure hours, in no case interfering with his regular employment. In the summer evenings might be seen sixty or seventy, parents and children, cultivating their allotments, which time would otherwise have been wasted in idleness or thrown away in the beer-shop. During the summer a public meeting was held, when the subscribers and friends inspected the allotments, and awarded prizes to the best cultivators. The committee had decided on extending the system through the parish, and have taken 10 more acres, for which they have already 40 applications. Payment of half-a-crown a year constitutes a member of the society, and so well have its objects been received, that most of the ladies and gentlemen in the parish have become subscribers. In receiving the tenants but little regard is paid to the applicant's character, as the object of the society is to reclaim the indolent and reward the industrious; and the propriety of this plan was made apparent at the last meeting, when one of the tenants received a prize for good conduct who had been previously considered one of the worst characters in the parish. A gentleman last year, in want of a gardener, inspected the various allotments, and was thence enabled to select one. By spade husbandry the ground is made to produce double the quantity raised by the plough; to which must be also taken into account the extra manure thus obtained.

A FEW HINTS ABOUT BEES.—At the last meeting of the Ashmolean Society in Oxford, Mr. W. C. Cotton, of Christ Church, read some notices on bees. All that is required for bee-keeping is a small cottage garden, or even a few yards of ground before the door, as the bees have no knowledge of the division of landed property. His first principle was—"Never kill a bee." The cottager, who, even now, is sorry to be forced to do so, has in the *fungus maximus*, or puff ball, a powerful instrument, ready to his hand, by which he is enabled, without any trouble or expense, to adopt a more humane, as well as more profitable, mode of treatment. The smoke of this fungus, when dried so as to hold fire, has a stupefying effect on bees, and renders them as harmless and motionless as brimstone does, without any of its deadly effects. By means of this, weak swarms and casts, which would not live through the winter, may be united to strong stocks. He stated it as a most extraordinary fact, and borne out by experiments, that a hive thus doubled will not consume more honey in the winter than a stock in its natural state. This was discovered by a Swiss pastor, De Geliur. The additional heat seems to serve, instead of additional food, to keep up the vital functions of the half-torpid bees. He recommended a dry, dark room, the colder the better, as the best winter quarters for bees. They will consume less honey than if left on their usual summer stands, and will not be weakened by the loes of the thousands which are tempted out by every bright December day, and which, when caught by the cold winds, fall to the ground, and never rise again. Dryness, however, is essential. He stated some curious facts which had fallen under his own observation regarding the instinct of bees, and described at length the principle of ventilation, the most valuable improvement in bee-keeping.

ANNIVERSARY MEETING OF THE RUTLAND AGRICULTURAL ASSO- CIATION.

This show (which took place in the Riding-school, Oakham, on Tuesday, Nov. 28), was exceedingly interesting to all persons engaged in agricultural pursuits; and speaking generally, the animals, both in quality and usefulness, exceeded those exhibited in any former year. In saying thus much in commendation of the present, we cannot drive from our recollection the fine specimens of former years, particularly the ox shown in 1832 by Stafford, O'Brien, Esq.; in 1833, by R. W. Baker, Esq.; and by Mr. Robt. Smith, in 1834; all of which obtained first prizes in the first class both at Oakham and Smithfield. At this meeting, though perhaps three times as large in number of cattle was exhibited, and an increased zeal in the cause was manifested, yet it is doubtful if an ox could be found equal to either of the three named. The Hereford, which won the 1st prize 1st class, was thought to be a superior animal, both in quality and condition; the same may be said of Mr. Robert Smith's ox, which won the first prize in the second class.—The third class was badly filled, and if considered as a specimen of *beast bred in the district*, there is evidently much room for improvement both in *quality and symmetry*; but that, and the fourth class, show that it is possible to produce a *fat animal*. The fifth class produced, perhaps, the finest specimen of a short-horn heifer that has been exhibited at Oakham, bred and fed by Mr. Baker, of Cottesmore, for *quality, symmetry, and hand*; this animal obtained *universal admiration*. In the other classes were many promising animals, and the competition for Sir G. Noel's prizes to occupiers under 30 acres excited much interest, and elicited great satisfaction to all interested in the welfare of their less wealthy stock-owners. The sheep generally did not quite answer to the expectation of the company.—The pigs were allowed to be the best in every respect that have ever been brought to Oakham, and many that did not obtain prizes, obtained praise from the lookers-on. In extra stock, Mr. Clarke's ewe and Mr. Bullock's ox were greatly admired. The latter won the 1st prize in class 1 at Oakham last year. He is stated to be five years and six months old. The increase of weight for a year's keeping, and the prevalent opinion that his back and fore ribs would get better covered, and his hand improved, did not fully answer the expectations raised; his qualities are far exceeded by the heifer in the 5th class, and the Hereford in the 1st class; but taking the whole as a show, and its arrangements, we doubt the possibility of much further improvement, at the same time expressing ourselves anxious that our opinion will prove futile.

The following noblemen and gentlemen were exhibitors of superior Vegetables:—Lord Exeter, Hon. — Edwards, Thomas Hotchkyn, Esq., Mr. Burgess, Mr. C. Morris, Mr. Painter, Mr. Thompson, Mr. Rudkin, Mr. Clarke, and Mr. R. Smith.

The number and respectability of the visitors to the show-yard was never equalled; in fact, we are credibly informed that it exceeded by one-third, the attendance of any former year.

THE DINNER.

At a little after 3 o'clock, a company of about 140 gentlemen sat down to a most excellent dinner. The Chair was taken by Sir John Trollope, Bart; the Vice Chair by Augustus O'Brien, Esq., and among the company we noticed H. Handley, Esq., M.P.; G. J. Heathcote, Esq., M.P., Stafford O'Brien, Esq., of Blatherwycke; Henry O'Brien, Esq.; Henry Wilson, Esq., of Harlaxton; E. W. Wilmot, Esq., of Pickwell; Major Whitchcote; H. J. Rudkin, Esq., of Langham; R. W. Baker, Esq., of Cottesmore; R. Smith, Esq., of Burley; Thos. Hotchkyn, Esq., of Tixover, Mr. J. Parkinson, of Ollerton, Northamptonshire (steward to the Duke of Newcastle); Mr. J. Ellis, of Beaumont Leys, Leicester; Mr. T. Townsend, of Hill Morton, Warwickshire, &c. &c. &c.

The cloth having been removed, the CHAIRMAN rose to propose a toast in which he was sure that all the agriculturists of Great Britain would join—he would give the "Health of the Queen."

"The Queen Dowager, and the rest of the Royal Family."

"Army and Navy."

Major WHITCHCOTE briefly returned thanks.

The CHAIRMAN next proposed as a toast, "Success to the Rutland Agricultural Society." (*Cheers*.) They were this day met, he said, to celebrate the seventh anniversary of this society. It was impossible to watch, as he had done, its progress from year to year, without being convinced how much they had effected, that it was scarcely surpassed in England, and that no provincial society could compete with it in the quality of the beasts exhibited, and the excellent rules by which it was governed. (*Hear.*) He proceeded to eulogise the society, and the benefits which it was likely to confer upon all classes; he had been for many years in the habit of following Lord Lonsdale's hounds, not so much for his own gratification as for the advantages which he enjoyed of seeing the state of the land—and he was happy to give his testimony to the yearly improvement which had taken place in its cultivation. The county of Rutland had been frequently styled the garden of England; now, a garden might be either well or ill cultivated—but this county, small as it was, he was convinced contained the best cultivated land in all England. (*Hear.*) He was most happy to acquaint them with the prosperous state of the society, whose success formed the subject of his toast; the sum collected at the show-yard this day had amounted to 45l. 1s., upwards of one-third more than that received on any previous year, and which proved that 901 persons, at 1s. each, had visited the show. This was a most gratifying result; it must prove an ample reward to those gentlemen who had fostered the society, and whose emulation, he trusted, would not cease; but all would rather increase their competition as to who could produce the best stock. He concluded by proposing the toast, which was received with the utmost enthusiasm, and proceeded to call upon Mr. Robt. Smith, one of the secretaries, to award the prizes, which he did as follows:—

CLASS 1.—"Oxen or Steers." 1st premium of 15 sovs. to Mr. J. T. Smith, of Postland, near Crowland, for his 4 yrs. and 10 months old Hereford Ox, bred by Mr. Hewer, of Hereford.—2d ditto, 7 sovs. to Mr. T. Mills, of Keyham, Leicestershire, for his 4 year and 7 months Durham Ox, bred by Mr. J. Goodwin, Apple-tree, Northamptonshire.—No. 4 commended.

CLASS 2.—"Oxen or Steers." 1st premium of 10 sovs. to Mr. R. Smith, Burley, 4 years and 7 months Durham Ox, bred by Mr. Dawson, Ingthorpe.—2d ditto, 5 sovs. to Mr. C. Smith, Burley, under 5 years Hereford Ox.

CLASS 3.—"Oxen or Steers." 1st premium of 10 sovs. Mr. Clark, Burley, 3 years 9 months Steer, bred by himself from Gainsborough, d. by M. Goodman's bull, of Wisbech, g. d. by Emperor.—2d ditto, 5 sovs. to Mr. V. Baines, Brook, 4 years Ox, bred by himself.

CLASS 4.—"Oxen or Steers." 1st premium of 7 sovs. to Mr. Cheetham, Hambleton, 3 years 5 months Steer, bred by Mr. J. Wilkinson, Lenton.—2d ditto, 3 sovs. to Mr. H. Hodgkin, Edenham, 3 years 2½ months Steer, bred by himself.

CLASS 5.—"Cows or Heifers." 1st premium of 7 sovs. to Mr. Baker, Cottesmore, 3 years 5 months Durham Heifer, bred by himself from Gainsborough, d. Watts.—2d ditto, 3 sovs. to Mr. H. Stimson, Oakham, 2 years 3 months Short-horn Heifer, bred by himself.

CLASS 6.—"Fattened Dairy Cows." 1st premium of 7 sovs. to Sir J. Trollope, 7 years Roan Cow, bred by himself from Young Windsor, and by Emperor.—2d ditto, 3 sovs. Mr. C. Morriss, Oakham Grange, 9 years Cow, bred by himself.

CLASS 7.—"To the owner (tenant farmer) of the best pair of Steers."—1st premium 5 sovs. Mr. Baker, Cottesmore, pair of Steers, 1 year and 11 months, bred by

himself.—2d ditto, 3 sovs., Mr. Chapman, Langham, pair of Steers, bred by himself.

CLASS 8.—“Long-woolled Fat Wether Sheep.” 1st premium, 5 sovs., Mr. Hickson, Hougham, 3 Sheep, bred by himself.—2d ditto, 3 sovs., Lord Exeter, 3 Leicester Sheep, bred by his lordship.

CLASS 9.—“Long-woolled Fat Wether Sheep.” 1st premium, 7 sovs., Mr. Painter, Burley, 3 Leicester Wethers.—2d ditto, 3 sovs., Mr. H. Stinson, Oakham, 3 Leicester Wethers.

CLASS 10.—“Ditto.” 1st premium, 7 sovs., Mr. T. Bullock, Manton, 3 Sheep.—2d ditto, 3 sovs., Mr. Bradshaw, Burley, 3 Leicester Sheep.

CLASS 11.—“Breeding Ewes.” 1st premium of 5 sovs. to Lord Exeter, 5 Leicester Ewes.—2d ditto, 3 sovs., Mr. C. Smith, Burley, 5 Ewes.

CLASS 12.—“Long-woolled Wether Lambs.” Premium of 3 sovs., Mr. C. Smith, Burley, 5 Wether Lambs.

CLASS 13.—“Pigs.” 1st premium, 4 sovs. to Mr. Lamb, Colsterworth, a 51 weeks old Pig.—2d ditto, 2 sovs., Sir T. Whichcote, a 14 months Pig.—No. 8 much commended.

CLASS 14.—“Pigs.” 1st premium, 3 sovs., Mr. Lamb, Colsterworth, a 31 weeks old pig.—2d ditto, 1 sov., Thos. Hotckin, Tixover, a 39 weeks old Pig.

CLASS 15.—“Best Stallion for the purposes of Agriculture.” Premium of 10 sovs. to Mr. Thacker, Canwick, roan cart stallion “Active.”

PREMIUMS by Lord Barham.

CLASS 16.—“Best Bull.” 1st premium of 7 sovs. to Mr. Baker, Cottesmore.—2d ditto, 3 sovs., S. O'Brien, Esq., Blatherwyke.

By S. O'Brien, Esq.,

CLASS 17.—“The owner (tenant farmer) of the best Cow in milk, that has calved within 9 months of showing.” 1st premium of 5 sovs., Mr. Baker, Cottesmore, 9 years old Cow, bred by Lord Exeter; 6 living calves.—2d ditto, 2 sovs., Mr. Painter, of Burley, an aged Cow, bred by himself.

By the Hon. Berkeley Noel.

CLASS 18.—“The owner (tenant farmer) of the best Heifer.”—1st premium of 7 sovs. to Mr. Chapman, Whitwell, 1 year 7 months old Heifer, from Lord Brownlow's b. “Victory.”—2d ditto, 3 sovs., Mr. Cheetham, Hambleton, 1 year old Heifer.

By Mr. T. Standwell.

CLASS 19.—“Best Boar.” Premium of 3 sovs. to Mr. T. Healey, of Ashwell.

By Sir Gerard Noel, Bart., M.P.—(To occupiers of not more than 30 acres of land.)

CLASS 20.—“Best Cow in milk.” 1st premium, 5 sovs., John Hickson, Langham.—2d ditto, 3 sovs., Mrs. C. Branston, Whitwell.

CLASS 21.—“Best Heifer.” 1st premium, 4 sovs., Wm. Knight, Burley.—2d ditto, 2 sovs., John Almond, Langham.

CLASS 22.—“Best Calf.” 1st premium, 2 sovs., Robt. Hibbett, Exton.—2d ditto, 1 sov. Wm. Woodcock, Cottesmore.

CLASS 23.—“Best Fat Pig.” 1st premium, 2 sovs., Thomas Hemfries, Egleton.—2d ditto, 1 sov., Matthew Weldon, Exton.

“Best sample of Oats.” Premium of 2 sovs. to Mr. Robert Smith, of Burley.

By the Rev. H. Neville.

“Best sample of Barley.” Premium, 2 sovs., Mr. Chapman, Whitwell.

By the Rev. H. Neville and Mr. Baker.

“Best sample of Wheat.” 1st premium, 1 sov., Wm. Wright, Ridlington.—2d ditto, 10s., Jos. Barfield, Ridlington.—3d ditto, 5s., Wm. Leatherland, Barrow.—No. 8 highly commended.

By E. W. Wilmot, Esq., Pickwell.

“Labourer in Husbandry, who has brought up the greatest number of children without parochial relief,

except in sickness, with best general good character, &c.” 1st premium, 3 sovs., Thos. Hayse, Empingham, aged 73.—2d ditto, 2 sovs., Wm. Chamberlain, Burley, aged 53.—3 do., 1 sov., Wm. Gregg, Oakham, aged 47.

By Mr. T. E. Pawlett.

A silver medal to the breeder of the best pen of Sheep.—Mr. Painter, Burley. (No. 2, Class 9.)

A silver medal to ditto in class 10. Mr. Bullock, Manton. (No. 2, class 10.)

By Mr. R. Smith.

A silver medal to the breeder of the best Beast in the yard. (No. 1, Extra Stock.) Mr. Bullock, Manton.

A silver medal to the breeder of the best pen of Ewes in class 11, Lord Exeter. (No. 2.)

By the Society.

A silver medal for the best pair of Mares for the general purposes of agriculture. Mr. Robt. Smith, Burley.

A silver medal for the best Yearling Gelding.—Mr. Bobt. Smith, Burley.

SWEEPSTAKES.—One sov. for the best Beast; Mr. Baker, Cottesmore.—One sov. for the best Cow or Heifer; Mr. Baker, Cottesmore.—1 sov. for the best Mare, for general purposes of agriculture; Mr. R. Smith, Burley.—One sov. for the best Yearling Gelding; Mr. R. Smith, Burley.—Half-a-sov., best Sheep; Mr. H. J. Rudkin, Langham.—Half-a-sov., best pen of breeding Ewes; Lord Exeter.—Half-a-sov., best Pig; Mr. Harrison, Garthorpe.

THE EXTRA STOCK was generally much commended.

MR. R. SMITH, after reading the above list of prizes, gave notice of the next meeting of the subscribers, for fixing the next day of showing, &c., to take place on the first Monday in January, 1838. He urged the attendance of all the subscribers, reminding them that there was no committee—that they were in fact, “a committee of the whole house;” and if they only attended, and devoted their energies to it, he had no doubt but they would ultimately triumph over Smithfield and every other county. (*Hear, hear.*)

THE CHAIRMAN next proposed the health of a noble patron of this society, who had been, during a long life, the untiring friend of agriculture; and who, among other munificent bequests, had given them the use of the splendid building in which their exhibitions had this day taken place; and without which the society must have been much inconvenienced. He would give them the health of Sir Gerard Noel. (*Cheers.*)

AUGUSTUS O'BRIEN, Esq. responded to this toast with much feeling. He assured the company, that the chief consolation to his revered grandfather in his absence from so many happy faces and well-known friends would be, the knowledge that his grandson had acknowledged this toast. He would, in return, propose to their acceptance another toast, which he felt convinced none but would rejoice to do justice to. They would be well aware to whom he alluded, when he referred them to No. 3 in class 6, and all who knew its object, his urbanity of manner, and kindness of heart, would feel no difficulty in doing justice to the toast of Sir John Trollope, their president. (*Cheers.*)

SIR JOHN TROLLOPE, in acknowledging the honour done, assured the company, that he felt highly indebted to them not only for the kind and friendly manner in which they had received him on this the occasion of his first appearance among them as a subscriber to the Rutland Agricultural Association—but also for the compliment they had paid him in hoisting him at once to the top of the tree, calling him to the chair, and conferring a prize upon him. He experienced great pleasure in meeting them there as friends and neighbours; he would yield to no man in his love for agriculture, and at all times his humble efforts might be commanded in its aid. (*Cheers.*) He trusted that he should meet them both at this table and in the show-yard, for many years to come. (*Cheers.*)

MR. ROBERT SMITH rose to correct what he must consider an unintentional error of the chairman, who had said that this was his first appearance as a subscriber,

when, in fact, he had been one of the very first subscribers. It had been his duty, as secretary of the society, to write to Sir John Trollope, to request his assistance on the formation of the society—and what had been his answer? *Most cheerfully, I will! (Hear, hear.)*

The CHAIRMAN then acknowledged the compliments paid him by the Vice-chairman, who, he said, was come of a good sort for agriculture: his worthy father then sat by his side, and they were well aware how good a patron he had been to it, and he doubted not but the son would follow in the steps of his worthy father. *(Hear.)* He concluded by proposing the health of the Vice-chairman, Augustus O'Brien, Esq., which was received with every mark of approbation.

AUGUSTUS O'BRIEN, Esq. rose to return thanks. Mr. Chairman, and gentlemen, I assure you that, it is ever a great pleasure to me to meet the men of my native county. I trust that you will allow me your attention while I address a few remarks to you on the subject of the present meeting. I believe all will allow that the pursuits of agriculture are those of the highest—the most vital importance. I do not wish in the least to disparage the benefits conferred on the country by manufactures, nor to detract from the merits of Leeds, Manchester, or Sheffield. I am ready to own that the table-cloth which we have just used was very white—that the knives and forks with which we eat our dinner were highly polished and sharp—but I must say, that if we had had no meat upon the table, I would not have given much for the table-cloth, knives and forks and all. *(Hear.)* The taste for manufacture may change—or foreign artisans outvie us; we see towns that were once great marts for manufactures neglected, and going to decay; but the pursuits of agriculture are always applied to—all must feel their importance, and confess that they are a merchandise which cannot fail, and which no foreign power can rob us of. *(Cheers.)* Look at the manufacturing towns, and see how much of unhealthy labour, if not demoralization, the artisans experience, and we shall tremble even at the utmost success so purchased—but see the agriculturists, with what different feelings he meets the early sun-rise in the pursuit of his daily labour, of scattering the grain, of tilling the land, or of gathering the harvest—and we shall find that he feels the curse of Adam is turned from him, or rather that that curse is to him changed into a blessing, as he gets his daily bread by the sweat of his brow. *(Loud applause.)* Is not this an argument why we should support agriculture? But we have others: in such meetings as these, which bind us together, and are to our hearts as the cement to our old castle walls; by them, long-forgotten neighbourly feelings are revived—old friendships are renewed—and thus, secure in the knowledge of each other's co-operation, the great changes which might otherwise snap asunder all the bonds of life, are nought to us, and we are enabled to attain what we want to attain—to modify what we want to modify—and to unite for the preservation of all the blessings of a social system. It is a most excellent thing further to observe, that the premiums offered by this society are not alone intended for the rich, but address themselves equally to the poor—and highly gratifying to their feelings must be this knowledge, when they receive the bounty of their superiors. Follow that man to his house—note his proud step as he enters beneath his humble roof—listen to the grateful language of his heart—and tell me, if all this is nothing. I pity the man that says so? *(Cheers.)* When we consider that we are all links in the great chain of creation—the poor as the rich—and that one link broken, all must go; we shall at once perceive the necessity of strengthening the chain—and one way is by the furtherance and support of such institutions as the present. I congratulate you, as my countrymen, on the formation, on the existence, on the success of such societies—and I congratulate you, as my countymen, on the high position which the Rutland Agricultural Association occupies among them. You have my best wishes for its success; and I sincerely hope that every succeeding anniversary may be as pleasant to you as this has been to me. Mr. O'Brien then sat down amid the greatest applause.

The CHAIRMAN proceeded to give the health of "The Judges," Mr. Parkinson, of Ollerton, Nottinghamshire, Mr. Ellis, Beaumont Leys, Leicestershire, and Mr. Townsend, Hill Morton, Warwickshire; whom he highly eulogised for the excellent manner in which they had performed their onerous duties.

Mr. PARKINSON briefly acknowledged the compliment which had been paid to him and his colleagues—a compliment which, although they had executed their labours with a determination to act right, they had no reason to expect. They had been highly gratified with the stock exhibited, particularly with the fat stock; although he considered that in the breeding stock there existed considerable room for improvement. He trusted that they would go on and prosper, and maintain the high ground which they at present possessed among such societies. *(Hear.)*

Mr. ELLIS also congratulated the subscribers on the success which had attended their efforts. The chairman, he said, had observed that he had watched the progress of this society, and felt gratified at what had been effected; but he (Mr. E.) would remind them that it was on the practical men that they principally depended for success. *(Hear.)* He was always glad to see in such societies the names of nobles and gentlemen among their ranks, because it showed that they were well aware how deeply and inseparably their interests were identified with those of agriculture; but their only certainty of success was when their views were actively worked out by practical men, and by such men as the farmers of Rutland. Mr. Ellis concluded by acknowledging the compliment paid him.

Mr. TOWNSEND also briefly returned thanks.

The CHAIRMAN next proposed the health of three gentlemen who were justly entitled to Mr. Ellis's cognomen of "practical men." He alluded to the Stewards, E. W. Wilmott, of Pickwell, Mr. Jas. Burgess, Ridlington, and Mr. C. Morris, of Oakham Grange, to whose able arrangements, not only for the advantageous exhibition of the beasts, but the admittance of visitors, the society was very much indebted. *(Cheers.)*

E. W. WILMOTT, Esq., acknowledged the toast, in the names of the stewards. As I told you, (he continued) last year, so do I again tell you—that we are volunteers, and not pressed men (*cheers*), and if what we have done tends to the advancement of the society, we are amply repaid—if we have failed, it must be remembered, that we are not infallible, but we shall always be most happy to be told when we are wrong, and I trust we shall have sense enough to amend our errors. It is with a feeling of pride—yes, I admit it, of pride, that I have witnessed the considerable increase of the stock shown this day over last year. It has been a brilliant day for the county of Rutland: but I must remind you that the higher we get, the greater will be our fall if we recede. *(Hear.)* We perhaps more than ever demand individual exertion. Nothing is to be done unless we pull together. The secretary has reverted to the meeting of January: now this meeting, although not so showy, is still of more vital importance. Men have no right, if they will not attend it, to complain of the disposition of the prizes. If they do not consider them right let them go, and express their ideas—every one has the right to do so—and the majority will decide; but I say that the man is not fit to belong to such a society as this who will not succumb to the opinion of the majority. *(Hear.)* With regard to myself, if I may be allowed without egotism, I will tell you, that I now resign the trust that was devolved upon me three years ago, with much regret, for I have ever met with much kindness and attention from all the members of the society, and shall remember with pleasure the intimate connexion which I have enjoyed with my colleagues in office—men whom I am proud to call my friends, and whose friendship I hope to deserve. I really believe that the arrangements have been good, but I do not consider myself as having had any thing to do with them; they have rested entirely with my brother stewards and the secretary. I fear that I have been but an idle and unprofitable steward, but I assure you that it is my wish to do all I can for the advancement of the society; and now that I return to the duties of a vice-

president, I promise you that I will not act as most of the vice-presidents do, but I will be always here. (*Cheers.*) The office is an honorary and a great one—but it ceases to be so when its duties are not attended to. (*Cheers.*)

The CHAIRMAN then gave "The Secretaries," Mr. H. J. Rudkin, Langham, Mr. R. Stimson, Oakham, and Mr. R. Smith, Burley. Their efforts (he said) had been unceasing throughout the whole year, and they might well congratulate themselves on the result. One of them had entered a most splendid animal for competition—which, excellent as it was, had been beaten; but he was glad that ill-success had not discouraged him; and that he seemed yet determined to take the bull by the horns. (*Laughter.*)

Mr. RUDKIN briefly acknowledged the compliment paid them.

Mr. ROBT. SMITH also returned thanks, and at once assured the company that what they had done had been done willingly—what they would do remained yet to be proved. For himself, he only hoped that when he should be found wanting, they would just drop him a line. (*Laughter.*) Mr. Rudkin had not said much, but he (Mr. Smith) would assure them that he was an excellent man in the field. He also eulogised the services rendered by Mr. Stimson, and urged the committee to take care and always have a resident secretary at Oakham. What they had effected this year he felt convinced was only a preface of what they would do. (*Hear.*) He again urged the subscribers to attend the January meeting, and what was set down at that meeting, to act by it. He was glad (he said) that he had borne away some minor prizes, though he had not obtained the great one; but he hoped to have an opportunity of offering the same beast for competition on Friday next; no man should be daunted till his race was run. If he should be beaten at Leicester, why then he would go forward for London—and if beaten then, he had only to begin again. (*Laughter.*) He felt, however, perfectly satisfied with the decision of the Judges; and concluded by giving "The Successful Candidates—may they come again and again—but may I win the first prize!" (*Hear, and laughter.*)

Mr. J. SMITH briefly returned thanks; he only wished (he said) when there should be again an opportunity, to come forward as a competitor for the first class—and he trusted that they would serve him in the same way. (*Laughter.*)

The CHAIRMAN, "The Lord Lieutenant of the county of Rutland, the Marquess of Exeter."—(*Cheers.*)

The CHAIRMAN—"The Unsuccessful Candidates."

EDW. W. WILMOT, Esq., rose. If he had felt regret in announcing to them the expiration of his office of steward, how much more should he regret having to respond to this toast. But, like Mr. Smith, he assured them that he was nothing daunted. He was a young man, and a young farmer, and he hoped that he should be beaten and beaten again until he produced a good animal—then the pleasure would be so much greater when he *did* procure a prize. He proceeded to urge the society to offer higher and more numerous premiums to farming labourers and servants. There could not be, he said, a greater curse to a farmer than to have dishonest labourers to deal with. He was proud to think that the small premium he had last year offered had brought forward three men worthy of prizes—he hoped their examples might be of service—and he declared, that he would rather give up any gratification than cease thus to appropriate the mite with which Providence had entrusted him, not for his own selfish pleasures, but for the good of others. He concluded by proposing as a toast the "Health of the Members for the county of Rutland." (*Cheers.*)

G. J. HEATHCOTE, Esq., M. P., responded to the toast in the name of his father Sir Gilbert Heathcote. However well his hon. friend, Sir John Trollope, had filled the chair that day, he could not help regretting the absence of Sir Gerard Noel, and he was sure that all would unite with him in hoping that he would be present at many of their anniversaries. (*Hear.*) His, Mr. H.'s, father did not, it was true, take the exact line of Agriculture which would enable him to become a competitor for their prizes, but he would say for him

that there were none who would be more happy to further the objects of this society. (*Hear.*) He would only make one remark for himself—his hon. friend, Mr. Wilmott, had inferred that it was not generally the custom of the vice-presidents to be present at these meetings; now he, Mr. H., was a vice-president, he always made it a rule to be present, and further assured them, that if there was anything which he could do to serve the interests of agriculture in general, and this society in particular, he should always be most happy to do it. (*Hear.*)

Mr. WILMOTT explained.

AUGUSTUS O'BRIEN, Esq.—Mr. Chairman and gentlemen, I cannot forbear intruding a second time upon your patience, to acknowledge your kind remarks upon my grandfather. I assure you, gentlemen, that whether present or not, Sir Gerard Noel is always with you in his heart, and none will regret his absence more than himself. I'll tell you what will probably take place between us the next time we meet:—"Sir Gerard," I shall say to him, "how was it that on my return from abroad, and in Ireland, you were not present at Oakham when your health was drunk? When it was proposed, the very glasses danced upon the table with enthusiasm. Sir Gerard, how was it that you were not there? You placed your grandson in a most awkward situation, compelling him to make two speeches on your behalf—this was not right, and an answer to my question I will have—Sir Gerard, why were you not there?" His answer, gentlemen, I shall give you the next time we meet. (*Hear.*) As we are now on the subject of agriculture, I will tell you an anecdote which happened a few days before I left Ireland. There was a cattle-show of my Lord Stanley's—not certainly so attractive as this has been at Oakham to-day—but still it was a cattle-show, and the interest attached to it was such that a great concourse of people was assembled. Well, gentlemen, to prove to you the mercurial habits of my countrymen, and show that they cannot rest long in any one pursuit, I will tell you what happened. Tired with the time which the judges took in making their decision, two young men proposed having a steeple-chase, and in five minutes' time, the only persons who were left on the ground were the judges, Lord Stanley's agents, myself, and an old apple-woman! (*Hear and laughter.*) Yet I can assure you, gentlemen, that in that country there is much that is worth seeing and knowing—(*hear*), and I should be right glad to see all of your faces there; I shall doubtless gain some valuable hints on farming, and you will understand what is the nature of a hearty Irish welcome—no such bad thing, I can tell you! (*Applause.*)

The CHAIRMAN.—My friend Mr. Wilmott stated that there were no vice-presidents present; one gentleman has spoken for himself—and your humble chairman is another. I can see several others in the room—and a great majority of them attended the show in the morning, although, perhaps, business has prevented their presence now. I give you the health of the vice-presidents of the Rutland Association. (*Cheers.*)

STAFFORD O'BRIEN, Esq., stated that he felt bound to respond to that toast, and to express his gratitude for the compliment paid to him. It was always his wish to attend such meetings, and do all that he could for the advancement of agriculture. (*Hear.*) They were aware that he was no orator, but only a straight-forward country squire. (*Hear.*) If there had ever been any oratory in him, he certainly thought that his son had imbibed it all—and he was right glad he had. He has said that he always would be a supporter of agriculture, and of this society; and he only hoped that he might prove as strenuous an advocate as he himself was, and equally endeavour to promote their good. In conclusion, Mr. O'Brien proposed the health of "Henry Handley, Esq., M. P."

Mr. HANDLEY rose amid much applause to respond to the toast, having previously changed seats with the chairman. The company will believe me, he said, when I state that I have not taken my present position with the view of eclipsing the hon. chairman. It is no bad thing you will allow to stand in Sir John Trollope's shoes—but notwithstanding I must confess that I have

changed seats under rather uneasy circumstances; and deeply as I bow to the many and excellent qualities of my old friend, he must own that I at least beat him in mutton, (*laughter*;) and therefore the bend that is suitable to him, is not likely to fit me. (*Laughter*.) I am here, gentlemen, not as a stranger, although I do come in the character of a visitor, and from the receipt of an invitation, which I had from your excellent secretary, Mr. Robert Smith, and in answer to which, I certainly did drop him a line not a line such as he challenged in the event of his neglecting his duties, for I am sure that his fulfilment of them and your estimation of him must always *a-cord*. (*Loud laughter*.) Mr. Handley proceeded to congratulate the committee on the success which had already crowned their efforts, and concluded, I hope to meet you hear on many anniversaries: a cause so well officered, is certain to be led on to victory; and whoever may be opposed to you in competition, I am certain that you will ever retain the position you now so triumphantly possess. (*Cheers*.)

The CHAIRMAN then rose to propose the health of a gentleman to whom this society and agriculture in general was much indebted. He referred to Mr. Baker, of Cottesmere; through his exertions the premiums have not been alone confined to the breeders of fat stock; his philanthropy has extended its benefits to all classes, and the poor, equally with the rich, are included in its limits. (*Hear*.) He proposed "Health and success to Mr. Baker and the ploughing matches of Cottesmere." (*Loud applause*.)

Mr. BAKER—I feel deeply the great compliment which has been paid to me as an individual, and as one who has done something towards the advancement of the agricultural interest. I began, gentlemen, when first I turned my attention to agriculture, by applying myself to its most humble part, ploughing, which is indeed its foundation stone; and I am proud to say that my exertions have been fully crowned with success. We have come to such a pitch of perfection in this branch of farming, as must tend to the advancement of the occupiers of land, as well as to those who lead the plough. I am happy to inform you, that at my Cottesmore ploughing meetings for 1837, premiums to the amount of 39*l.* 15*s.* were awarded, (*cheers*;) and it is quite impossible that in any county in England, ploughing can be pursued with greater benefit than in the county of Rutland. I have also turned my attention to the department of hedge-cutting and ditching; and we have been enabled to cure some of the worst fences that could possibly exist. Next year, I am sure that neither farmers nor fox-hunters will have reason to complain of our fences, for we have placed a number of extra gates, and all fox-hunters like gates. I think that the hon. chairman will confess the strength of our fences, for I remember last season, when he was hunting over Exton fields, he was foremost, as he is always sure to be, and charged a fence which had carried our first prize: it stopped him, however, and the fence that will stop such a rider as Sir John, has not much to fear from any ox or cow. (*Hear*.) I may next allude to the allotment system, (*hear*;) in which since 1830, we have, including ploughing, stacking, thatching, hedge-cutting and ditching distributed prizes to the amount of 71*l.* 0*s.* The sum awarded at the last meeting was 17*l.* 9*s.* I am proud to feel, that in this system of allotments it is almost considered as a branch to this society; for you have ever taken me by the hand, and I trust that we we shall continue to work together with unanimity. Whether to the tenant farmer, or to the owner of land, I am convinced that all will ultimately confess the good effects that it is producing. Perhaps you will now allow me to deliver a message from Sir Gerard Noel Noel, who certainly intended being present this day, but that an attack of rheumatism renders it necessary for him to nurse himself. He says that he feels as great an interest in this society as ever; he is most pleased to witness the number of competitors for the classes of premiums awarded to cottagers occupying land under 30 acres: if his premiums have been acceptable, he offers the same as last year, (*hear*;) and, should the offers suggest any thing new, his attention shall certainly be

given to it, and his purse be at their service. (*Applause*.) I am convinced, gentlemen, that there remains much to be done in agriculture, especially in the sowing of wheat; in the allotments it has been customary to sow it in deep trenched ground that has been exposed to the air during winter, and thus five, six, and often seven quarters have been produced an acre. I will detail to you one experiment which I made last year in deep ploughing. I felt at first inclined to try the press, but some said, try the drill, some the broad-cast, and at last I selected the drill, and had the seed trodden in by my Lord Lonsdale's horses, when they were at exercise, and afterwards had a flock of 400 or 500 sheep driven over it. The produce of this land averaged 7 qrs. 1 peck an acre throughout 22 acres;* and from 2 bushels and 1 peck of seed per acre sown. The sample exhibited to-day was from the produce—(*hear*)—and I wish you would all try the experiment, of treading in the wheat or fixing it firmly in the ground, which I am sure will lead to a similar result. As regards the exhibition of animals, I think that we are still wrong in principle, and in endeavouring to produce so much fat. (*Hear*.) If we paid greater attention to the increase of *eatable* flesh, I am certain a great improvement might be effected, especially in the quality of Leicestershire sheep, and pigs. (*Hear*.) When our prize animals are killed, what do we find? Why, perhaps, five or six inches of fat to one of lean. I intend, another year, to offer a premium for that animal which, when dead, shall show the most *lean*, and I hope that some one will offer a similar pig premium. (*Hear, hear*.) I must beg you to take my hints about fat and lean into consideration, and see whether we cannot produce a greater quantity of *eatable meat* than we have hitherto done. (*Applause*.)

The CHAIRMAN.—"Mr. Wilson and the Leicestershire Agricultural Association."

Mr. WILSON returned thanks.

The CHAIRMAN then proposed the health of the Donors of the different premiums at the present meeting.

STAFFORD O'BRIEN, Esq. acknowledged the toast, and named Mr. W. Noel as a donor of 7*l.* annually. (*Cheers*.)

The CHAIRMAN.—"The visitors."

A Gentleman, whose name we could not procure, responded to this toast; highly eulogizing the stock shown, excepting the sheep, which he declared were inferior to those of Lincolnshire in wool, mutton and size.

Mr. WILMOTT said, that the comparison could only be drawn with a consideration of the land on which the sheep were fed here and in Lincolnshire. He would ask them to take 10 of the Lincolnshire sheep, and put them on Rutland land, and see where they would be at the end of a year? (*Hear*.)

The VISITOR.—I have travelled through Rutland, and have seen some very good land, and I am quite sure that there is a quantity of bad land in Lincolnshire.

The CHAIRMAN.—"Prosperity to the Waltham, Bourn, and Grantham Agricultural Association." (*Cheers*.) My witty friend, Mr. Handley, has compared his mutton to mine, I certainly should be sorry to be shown in the same *pen* with him—and it may be taken as a proof, that even Lincolnshire does not produce them all alike. (*Hear and laughter*.) I am a member of one of these societies lately established,

* The Field 22 acres; Clover Grazed 2 years.

1836. Sept. 15, and following days ploughed.

Oct. 4, 5, and 6th, drilled with wheat (golden drop).

1837. May 8, 9, 10, and 11th, hand-hoed the wheat at 4*s.* per acre.

Aug. 28th, began to reap 10*s.* per acre.

Sept. 6 and 7th, carried to barn.

Sold the wheat in Oct. average 52*s.* *£.* *s.* *d.*
per qr. at the barn door..... 402 3 9

Value of Straw & Stubble to be added.

Total Value of the Crop

and shall be most happy to adopt your hints—at the same time, I trust, that as younger and weaker brethren, you will extend your help to us. (*Hear.*)

Mr. WILSON acknowledged the toast, on behalf of the Waltham Agricultural Society.

Mr. WILMOTT next proposed a toast "Mr. H. Stimson, and thanks to him for the good dinner which he has provided us with."

Mr. STIMSON briefly but sufficiently returned thanks.

The CHAIRMAN.—"Lord Lonsdale, and fox-hunting." (*Much applause.*) The Chairman was very happy to have heard a remark which fell from Mr. Baker, that the trampling of horses over land was good for the growth of wheat. He trusted, then, to hear no more complaints from the farmers; but the next time they saw them riding over their lands, they would say "There goes another quarter an acre." (*Laughter.*)

Mr. WILMOTT explained the absence of Lord Lonsdale as a competitor this year, which he said was owing to an accident happening to a very fine animal that he had intended showing, and which had obliged him to have it killed. He hoped, however, that they should have him another year. He would propose as a toast "The Nottinghamshire Agricultural Society and Mr. Parkinson."

Mr. PARKINSON returned thanks, and made some very excellent remarks, on the use of the Italian Rye Grass for sheep, which he said would prevent, in a great measure, the necessity for the growth of clover, and which possessed all the good qualities of any other kind of grass.

Mr. HANDLEY differed very much from the view taken by the last speaker of the utility of cultivating the Italian Rye Grass. None have been more bitten, if he might be allowed the use of that expression, than himself, by that grass. He allowed that it was very palatable to sheep; but he was quite sure that this, and every other kind of rye grass was but first cousin to twitch. (*Hear.*) Although this Italian rye grass was highly beneficial from its bulk and quality as food for sheep, they would find that any succeeding crop, especially wheat, would be greatly inferior. He would relate to them an instance of this: in a 12-acre field, he had been induced to sow three acres with Italian rye grass, and when the sheep were depastured on it, one could tell at a great distance which was the rye grass, from the manner in which the sheep flocked on it; but, on a succeeding crop of wheat, it was much more easy to distinguish at a distance which part of the land had been sown with this grass, from the visible inferiority of the wheat there. (*Hear, hear.*) He was not prepared to say if there was any chemical property on particular land which rendered it improper for the growth of this Italian rye grass—but so it was. The hon. speaker proceeded to remark, that he was convinced that a vast mine of wealth was yet concealed in chemical knowledge, with reference to agriculture, and which if pursued he was confident would lead to results of the highest importance. There was one observation which he would make, to elucidate his ideas on this point. Some years ago much had been said and written upon the use of gypsum as manure. A friend of his had used it extensively, and had pronounced it to be a perfect failure. Some time after this he had held a conversation with a Prussian nobleman, and an English gentleman on the qualities of gypsum, and the former had expressed his astonishment that more of it was not used in England for manure; that on the continent they import it in vast quantities from the gypsum quarries at Montmartre, and found a vast difference in its favor over land differently treated. I afterwards found however, (continued Mr. H.) that my friend had employed it on a limestone district, and that there was a chemical affinity in the lime which destroyed the qualities of the gypsum; and the Prussian nobleman said, that it was in a sandy soil that it had been so successfully used. (*Hear.*) I only advance this to show that different soils are differently affected. (*Hear.*)

Mr. PARKINSON replied, that he had not anticipated a failure of a wheat crop after Italian rye grass. If such should be the case, he had made an unfortunate error, for nearly all his land was so treated. He suggested,

that all the seed which was sold for Italian rye grass was not pure, but might be probably adulterated with twitch, and adduced many instances in support of his belief in its excellent qualities.

G. J. HEATHCOTE next proposed as a toast, "Success and Prosperity to the Agricultural Interest," and in a very able manner proceeded to the consideration of how those ends might be best attained—by the improvement of animals—the amelioration of the condition of labourers—and by draining the land. The hon. gent. laid particular stress on the importance of the latter branch of agriculture, stating the great improvements he had effected on his own estates in that respect. He had been last year accused by his hon. friend (S. O'Brien) of not sending animals for exhibition—a reflection which his hon. friend had this year well borne out, by not sending any himself. (*Hear.*) He concluded by assuring them that the clouds which had so long rested upon agriculture would soon pass away, and they would, he had no doubt, see the speedy dawn of better days. (*Hear.*)

STAFFORD O'BRIEN, Esq. declared that he should have much pleasure in riding over to Stocken some fine day to look at Mr. Heathcote's drains. (*Laughter.*)

The CHAIRMAN.—"The fair sex; and the Ladies of Rutland." He trusted that the funds of the society would soon be in such a state, as to enable them to erect a building spacious enough to entertain all their friends, with a gallery for the ladies. (*Oh, oh, and laughter.*)

Sir John Trollope then quitted the room, all the company rising on his departure.

Mr. Handley was then called to the chair; a variety of other toasts were given—some excellent songs sung—and the company separated, highly gratified with their entertainment, and quite coinciding with Mr. Wilmott's remark, that it had been a "brilliant day for Oakham."

Upwards of 100 gentlemen also sat down on the same day at an excellent dinner provided by Mr. Crowson at the George.

CHALLENGE TO ALL THE BREEDERS AND FEEDERS OF CATTLE IN ENGLAND.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—It has for many years past been my opinion, grounded on the experience I have had, and the observations I have made as a breeder of cattle during the last forty years, that the premium offered by the "Smithfield Cattle Club" (and since adopted by the many agricultural societies in the kingdom) to the best cattle and sheep that can be produced without any restriction as to the cost or quantity of the food they may have eaten, has a tendency to create great individual loss to the feeders, thereby producing great national evil, instead of national benefit, which the society professes and ought to have in view. And as it is also my particular wish to have this mode of feeding put an end to, I am induced to trouble you with a few remarks on the subject. At the time this mischief-creating premium was first proposed to be given, purposely to suit the views of the breeders of short-horned cattle and south-down sheep, I was in the committee-room in Sadler's yard, and with what little ability I possessed strenuously opposed its adoption, solely on the grounds that it was holding out a bounty to cause cattle to be fattened at an expence injurious to all, and not prudent to be attempted by any but very rich persons. And what was still more objectionable would be no proof whatever which sort of animals were the best to propagate for general purposes, that is to say, the kind likely to yield the most money to the breeders and feeders of them, for the food, which in a regular way, each may have to

keep them on. The premium of 20*l.*, which is offered by the Smithfield Club to the first class of oxen, allows any ox under five years old, no matter how fattened, to compete for. Now, Sir, as I firmly believe it is quite impossible to make an ox or steer of any sort as good as his nature will admit, even at one year old, without first giving him food, the cost of which will much exceed his value at 9*d.* per lb., when fattened; what then, I ask, must be the loss to the feeder, provided animals be kept, which to my own knowledge they often are, till they are nearly five years old? Not ever having been rich enough to make the experiment myself, I leave it to those who have made it to correct me if I am in error. This, Sir, being my sincere opinion, I am induced to to make the following offer to *all* the breeders and feeders of cattle in England, which offer, provided it is accepted, which I hope it may, will, I think, tend more to satisfy the minds of the breeders of cattle, and particularly the graziers, than any experiment that I have known to be publicly made. On the 17th day of the past month I sold four three-years-old meaty Hereford steers to J. T. Senior, Esq., of Broughton House, in the county of Bucks; these four steers were all I reared, in the year they were calved. 1834, they have lived from that time up to the present on less, and *much cheaper* food, than is usually given to cattle of the same description, a fact well known in this part of the country. Two of these steers, if they live, Mr. Senior intends to exhibit in the show yard in London, in 1838, for the premiums offered to the first and second class of oxen. On these two oxen I am willing to stake 50*l.* against any two oxen of the *same age*, of *any sort* in England, on the following conditions, viz., that whoever may accept my offer shall cause to be sent within a month or five weeks from this time, the pair of oxen that he may intend to show against them into the hands of Mr. Senior, where they shall be kept with, and fed on the same kind of food and be treated in the same manner in *every respect* as Mr. Senior usually treats his show cattle; and the quantity and quality of food they may have respectively consumed ascertained (from the time they are put into the stalls next autumn, till the time of their being shown in London) and given to the judges, as a guidance to their decision. As I consider it possible, Sir, that this proposal may be objected to on account of Mr. Senior being a friend of mine, which I am proud to say he is, should such objection arise, I will endeavour to obviate it, by further proposing that any person willing to accept the challenge shall be at liberty to send his pair of oxen into the hands of Mr. Rowland, of Creslow, in the county of Bucks, or into those of any other respectable grazier in that neighbourhood, provided Mr. Senior may be allowed, at all times he may think proper, free access, to see that they are treated in every respect in the same way as his own oxen are, he (Mr. Senior) to grant the same privilege to the other party. I have stated correctly how the steers that I sold to Mr. Senior had been kept while in my possession, but I will offer no objection whatever as to how those may have been kept that they may have to compete with; the conditions I require relate entirely to their subsequent treatment the only conditions that I am aware of at all calculated to enable both the breeder and the grazier to arrive at the grand desideratum, viz., the kind of animal best adapted to pay the respective parties. I trust, Sir, you will consider this letter of sufficient public importance to give it a place in your valuable paper, and as I am anxious that these, my opinions, should be generally known, I hope it will be copied into every provincial paper in the kingdom. I had last week the pleasure of meeting my friend Mr. Hilliard at the late Mr. Jellicoe's sale of cattle, when I made known to him the challenge I intended to give, and requested him to inform his neighbour, Earl Spencer, and every other breeder of short-horned cattle with whom he may be acquainted; this he promised me he would do. Accept my apology for having trespassed on your time at so great a length, and believe me, Sir, your obedient humble servant,

JOHN PRICE.

Pool House, Upton on Sive, Nov. 16.

SUGGESTED TO THE RIGHT HON.

C. P. THOMPSON, M.P.

FOR PREVENTING FRAUDS TO THE GROWERS OF
BRITISH WHEAT, PROVIDED FOREIGN WHEAT IS
GROUND FOR EXPORTATION.

- I. That, previous to any mill receiving foreign wheat to be ground for exportation such mill or mills shall be totally cleared of any corn, meal, offal or any ingredient whatever.
- II. That notice shall be given to the Custom Houses of any quantity of wheat intended to be ground, where deposited, and the name of the persons granary.
- III. That all foreign wheat intended to be ground for exportation shall be measured up in sacks of four bushels each, and when forwarded to the mills each and every sack shall be weighed in the presence of the Customs' Officer, and locked up when put on board decked barges or covered waggons. The said officer to deliver the keys to the Custom House for the owner of the wheat to receive, or the miller, also an account of the weight of such wheat forwarded and by what conveyance, adding the address of the persons to whom the waggons or barges may belong.
- IV. That any owner of waggons or barges conveying foreign wheat to the mills (or returning the said produce to Bonded granary, or ship for direct exportation) suffer the same to be robbed or exchanged, such parties offending shall pay not less than 100*l.* per bushel weight of the wheat or flour deficient. One half of the said penalty to be given to informer.
- V. That there shall be inserted in the grinding bill stipulated quantities of flour, bread, middlings, pig middlings, fine and coarse pollard, and bran per qr., to be returned to bonded granary, according to the weight per bushel of the wheat sent to the mills, commencing the scale of the weights at 52*lbs.* per bushel, advancing to 66*lbs.* per bushel.
- VI. That previous to any flour or offal being returned to bonded granary, or shipped for direct export, notice shall be sent by the miller to the customs, for the inspector to examine the quantities of flour and bread middlings, &c., whether the weights correspond with the act, and that the offal is properly cleaned, previous to being allowed for home consumption, such offal paying one one shilling per qr. upon the gross quantity of quarters of wheat sent to the mills.
- VII. That any deficiency arising at the mill, the owner of such said mill shall be liable to pay the sum of 100*l.* per bushel weight of wheat sent to be ground.
- VIII. That any labouring miller or any other person giving information that corn, meal, or any other ingredient whatever has been smuggled into the mill, for the purpose of exchange, or any quantity kept back, the miller shall, on conviction, be liable to the same penalty, viz., 100*l.* for every bushel weight, or in proportion to a less weight; the half of said penalty to be paid to informer.
- IX. That all foreign wheat ground to export to foreign dominions to pay 1*s.* per qr. duty, and the produce of such foreign wheat, viz., flour, bread middlings, pig middlings, fine and coarse pollard, and bran, one and all to be exported.
- X. That the Customs' officer shall (for the satisfaction of landlords and farmers) report weekly to the *Times*, and *Morning Chronicle* a full and clear statement of all foreign wheat ground, describing the various sorts, weights, and quantity, also similar statements of the produce from each and every parcel returned to bonded granary, or directly exported from the mills.

ON CROSSING SHEEP.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I have this day forwarded for your columns an advertisement, holding forth an offer to the whole kingdom to meet me in the field of competition with any breed of sheep, kept as folding and stock sheep, in which shall be found the union of so many points, profitable to the farmer, and desirable for the grazier. It is now six or seven years since I first introduced an improved Cotswold Ram among a few Hampshire Down ewes, the produce of which, living with the Downs, soon convinced me of their vast superiority; from that time I have continued the breed; with what success is pretty generally known by most breeders and dealers attending our Hampshire fairs, but I believe my plan in pursuing it, has totally differed from that of any other person, indeed has been in direct opposition to the generally received opinion in respect to crossing, for instead of going back, after one cross, to the original breed on either side, I have used half-bred sheep with half-bred ewes, a practice condemned by three-fourths of the old school of breeders, none of whom by the bye could I ever find who had tested it themselves, but believed it to be erroneous because their great grandfathers had so noted it down; it may be interesting therefore to state the why and the wherefore of my thus proceeding.

In the first place it may be well to observe, that my object in crossing, was to combine the good qualities of the improved Cotswold and Down species; the former, as is well known to most breeders and amateurs, originated from the Leicester ram and the Cotswold, or Gloucester ewe, the former the model of fine symmetry and kindly doing, was considered by the Cotswold breeders to be the sheep which would greatly benefit the breed of their county, for by uniting the admired qualities of the Leicester, with the longer, stouter, and heavy wool-bearing Gloucester flocks, they produced an animal very far superior to either pure breed, as regarded general, and combined qualifications, in as much as the cross was improved as regards the Cotswold, by giving a more uniform symmetry, and kindlier disposition to feed. The Leicester was improved by adding weight and strength to the wool, length to the body, and vigour to the constitution, for which latter quality the sheep of the poor, bleak, Cotswold Hills, is proverbial, but which has ever been admitted to be wanting by that bred in the rich vales of Leicestershire. This cross, then, as improved, uniting so many points, was one, to my view, highly recommending itself to be tried without flat sided, narrow-breasted, light woolled Hampshire ewe. Indeed it seems that the rage for an attempt at improvement in our county sheep was general, for many are the crosses that have been made within these few years, but in too many instances with little or no success, to be attributed on the one hand to an ill selected sheep, and on the other to the want of perseverance, strict observation and comparison, but above all to the baneful influence of prejudice, and deep rooted bigotry. Crossing, to be effectual, must have great and constant care in perpetuating it; immediate perfection can only be dreamed of by those who confide in the power of the magicians' wand; it is very true that a good Cotswold sheep used with a flock of Downs will produce lambs of a superior size, weighty in wool and kindly to thrive; in my opinion the largest heaviest, and most profitable, in comparison to the food consumed, of any breed in existence, but breeders, stock and folding breeders especially, have

other points to look to beyond mere size, they want something like uniformity in colour, symmetry, and wool; and when sheep are thus crossed, although the produce may be all kindly and profitable, yet out of one hundred ewes there may not be more than fifty lambs in which are combined the good points of both sire and dam, with the quality of wool so completely altered as to partake of the firmness and fineness of the Down with the length and weight of the Cotswold, and this with unobjectionable colour of face; here it is that the greatest care and attention is required to reach the intended object. Having selected those animals in which the desired qualities, are conspicuous the owner must make up his mind to wade through seas of opposition; the first animal to be conquered and silenced is his shepherd. And to the innumerable host of sticklers for "things as they are" merely be cause they are such as have been been from their boyhood, and to alter which, even were the wool of any new breed hung with gold, would be deemed rash innovation of their grandfathers' habits, the owner must point with the finger of triumph to his selected sheep, and answer them by the superior points there apparent, by facts, stubborn as the prejudice of his opponents.

To return to the animals selected from the fall, as possessing the required qualities, I will proceed to explain how I have managed them in direct opposition, as before observed, to the popular opinion, if indeed that be worthy the name of opinion, which is founded on no practice, and sanctioned by no real experience. I have selected the best rams crossed as above and used them with ewes of the same breed, half-breds with half-breds; this I have followed for four years, and I defy the kingdom to produce a cross so uniform in size, colour, wool, and general appearance—not that all mine are yet so well matched as I wish them—this to all persons of dispassionate judgement will be admitted impossible in the short space of half a dozen years, but they are now very fast progressing towards the point I have been aiming at; two-thirds of my young sheep having colour quite as dark as Downs—none white—yet their fleeces are equal in weight to pure Cotswolds, much closer, finer, and firmer in texture, and at least from 1d. to 1½d. per pound more valuable.

This mixing half-breds with half-breds is the only way to obtain uniformity, and at the same time preserve the size, shape, and weight, of wool of the first cross, which on reflection will be apparent. Animals similar to each other are thus coupled, their make, wool, size, and colour, correspond; and it is but natural to expect their produce will resemble them: but if you are ever shifting backwards and forwards to the original breeds, either to a Cotswold sheep with Down ewes, or Cotswold ewes with a Down ram, you will have every variety of sheep imagination can conceive—indescrivable mongrels.

It will possibly be remarked, but do you keep working your own stock without change? Without discussing the merits of this point (which I believe to be but little understood), I answer this is by no means necessary; you may change your blood without changing the breed, when occasion requires; it is only to procure a few good Down ewes, cross them with a pure Cotswold, select as before, and the end is accomplished—this method is necessary only when a breed is in its infancy; if, as is my firm opinion it will, it should become greatly extended, changes can be made as now between different breeders.

I have thus far spoken only of obtaining a uniform breed of the first cross; I will now proceed to observe that to render this breed still more useful and profitable, and to adapt it to every purpose for

which the full sized Down is now used, a good-coloured, good-wooled ram of this first cross should be used with Down ewes. Where good judgement is here exercised, the produce is the handsomest, most compact, and all purposes considered, the *most profitable* sheep that has ever yet been produced. Here you have combined all the advantages of the Leicester, Cotswold, and South-downs; a capacity for folding, with increased aptitude to thrive; a kindliness in nature, without tenderness; a frame so improved as to come to greater weight when fatted than the Downs, without the inconvenience of too much size; an increase of wool, not only in *length and weight*, but in value, this *second* cross, bearing beyond all dispute the most valuable combining wool England can produce. On any farm where the moderate sized Hampshire Down will live, I do not hesitate thus openly to declare, that the *second* cross of Cotswold and Down shall beat them, taking the average annual sales, at least 25 per cent. in profit, *keeping the same numbers and performing the same folding*. On this point, I have twice before, ineffectually dared my brother farmers of Hampshire to a trial, and now for the *third* time, I solicit some spirited South-down breeder to select one hundred ewes, one half of which shall be coupled with his own ram, the other half with a cross-bred of my production; let the lambs fall and live together in any manner, good or bad, *he* pleases; let them be shorn when teds, and then wool and carcase valued; by the event I am willing to let the merits of the cross stand or fall. As to pure breed! nonsense! there is no such thing in this county!! and I much question, if a close investigation took place, whether the celebrated Ellman's breed did not derive their "mould" from Bakewell's Leicester.

When came the large Hampshire black-faced sheep, erroneously called the Down? was there any such animal existing forty years ago? decidedly not. What was then the prevailing breed of this county? undeniably the horned sheep, or Berkshire Notts. How came the present breed produced? By the Sussex Downs, and crossing them with the two breeds above mentioned; this is a fact which the evidence of every old Hampshire shepherd will establish. How came then (and I now more particularly address myself to those who have so hastily adopted the opinion that cross-breeds are unfit to breed with cross-breeds) the uniformity of colour, coat, and appearance to be obtained, which for several years past has distinguished the Hampshire sheep? the produce of the cross either with the horn or Leicester sheep, must have partaken quite as much of the white-face as ever the Cotswold cross can. How came this colour to be obliterated, if you did not intermix your dark-faced cross rams with the same cross of ewes, and thus in course of time wear out the stain? Had you had recourse to Sussex again to effect this, I fancy we should have seen a very different animal from that for which Hampshire was distinguished fifteen or twenty years ago—large-headed, flat-sided, immense bone, and anything but a good shape; in fact, no resemblance to a good Sussex Down, except in their colour; precisely in the same way as to restoring uniformity of appearance and colour, can this cross of the Cotswold and Down be managed, but as much difference in symmetry, coat, and value in the two crosses will be found as between a gruel-fed inmate of a Parish Bastile, and a turtle-fed Alderman of Guild-hall, were each cut up and sold by the pound.

I have greatly to apologize for having extended this subject so far; but even now it is too briefly disposed of to do it justice, the more especially, appear-

ing as I do single-handed to combat the accumulated prejudice and bigotry of an age.

To such as have already tried this cross—who may have obtained sheep, which from having white faces, they concluded were improved cotswolds, while perhaps they were no more related to that breed than to their Downs, to others who having obtained good sheep, have been overawed by the example, or influenced by the jeers of their neighbours, who have listened to every unauthenticated tale, and been turned to and fro by every breath of opinion, and thus prevented from giving it a full and fair trial, I would say, look at mine; come, compare, scrutinize and criticize to your satiety, only decide impartially, and I am content. Leave bigotry at home! Bring reason and judgment as your companions, and I doubt not you will add conviction to your party. But why should I deary my friend bigotry? it is to her disciples I am mainly indebted for the production of a breed with which I have this day challenged the world. The bigots could never give me a reason for their opposition, and it therefore gave additional impulse to my efforts. Oh, they won't do! Why, said I! *because they won't*, was the sapient reply. Others, when conviction obliged them to admit the superiority, exclaimed, "but they won't buy them." Mr. Editor and readers, *they have* bought mine, as lambs, at prices which no Downs in the same market could approach, at the first lamb fair in England, Overton, in every season when I have kept them so long, and these lambs have returned the feeder at fourteen months old, prices to which I defy any equal to be produced. I have the written documents and the living testimony of the feeder of one hundred sold teds in April, 1836, which wool and carcase returned him "four hundred pounds." An ounce of proof is worth a ton of argument, or rather that sort of commodity which is generally so current among those swayed by prejudice, cyleped "JAW." And should you, Mr. Editor, or any of your numerous readers be passing through our little borough, any time from the end of April to the end of May, before my sheep are shorn, I flatter myself if they or you will just run through the flock, you will witness proof, that all I have pen'd on this subject, is founded in fact, and verified by a host of some eight hundred fleecy witnesses. To conclude, I would ask of all breeders the following questions:—Ought not that species of sheep to be most prized, which will bring the greatest amount of profit in the shortest space of time to the grazier, regard being paid to the quality of food consumed? This I opine will be answered by all in the affirmative; it must then be obvious, that the species from which this desideratum is to be expected, is the one which will become "*ripe*" at the earliest age. The Leicester or Cotswold will become large, heavy, and fat on the outside, but not inwardly, as yearlings; very few Downs will at that age be sufficient mutton for slaughtering, from their known disposition to arrive more slowly at maturity; what then is wanted, is that young sheep large and heavy enough at a year or 14 months old, and "well furnished" as the butchers style it, with internal fat, good kidneys, and a due proportion of fat and lean, so that neither shall greatly preponderate. I presume it will strike all who have paid attention to my description of the cross-bred, that this animal, *combining* as it does the qualities of the different breeds, is the most likely to answer this end: and the idea which the description may awaken, will be agreeably strengthened by inquiring of those, who may at any time have slaughtered any of mine, or other such like cross-breeds, whether they ever kill'd any other sort of sheep as

yearlings, which taking them in every point, were so generally well furnished or so ripe as mutton. Messrs. Bannisters, of Windsor and London, Giblett of Bond-street, with many others in the neighbourhoods of Windsor, Reading, and Maidenhead, who bought of Mr. Cannon of the latter place, sheep bred by me in 1835 and 36, will be able to satisfy the sceptical on this point.

I have now only to beg of all breeders, never to trouble themselves in an experiment of this or any other cross, unless they can make up their minds to keep a strict debtor and creditor account, to allow a like number of any other breed they may fancy, have the same food pound for pound, and be treated precisely the same; balance cost price, food consumed, and actual value at the time of sale, and let the result determine the propriety or impropriety of persevering; but *never* allow yourselves to be laughed, jeered, or talked out of important advantages, by shepherds, bailiffs, or farmers, who perhaps may deem every alteration in agricultural pursuits as chimerical, since the days when the flocks of the patriarchs of old, congregated in their tens of thousands on the mountains, and folds were unknown, or when oxen supplied the place of the flail or thrashing machine, by treading out the produce of the harvest, for I am well persuaded that nine-tenths of these shepherds, bailiffs, and farmers, would sacrifice every really profitable point in a sheep, for the sake of some peculiar form or colour of head and face, because "father and grand-father, had such before them."

I am, Sir, yours respectfully,

J. T. TWYNAM.

Whitchurch Farm, Hants, Nov. 27th, 1837.

ON THE SHORT-HORNED BREED OF CATTLE.

The question whether this race of animals ought to be introduced into this part of Scotland, is a very important one in our rural economy; and although your paper and many other publications have occasionally entered into the discussion of it, yet it is by no means settled to the conviction of all interested. The fact is, that the cultivators of this country are a body of men who will not allow any question, so deeply affecting their interests, to be settled by any abstract discussions of its merits. They are too much of philosophers for that.—Lord Brougham may astound the world by his talk of the infinite value of the Baconian philosophy, and may make the ignorant conceive that he is in possession of some mighty secret, by initiation into which, men may, every one of them, attain the summit of all wisdom, and power, and wealth, and dignity. Let him come among us, and learn to glory less, when he sees a whole people, without making any pretensions, or conceiving that they are doing any thing wonderful—acting in all their most important affairs on the most refined principles of his great master, and that, too, antecedently to his selecting and conferring such notoriety on the apothegm of that illustrious man, that "knowledge is power." Whatever may be his power in haranguing on the theory, we assure him it were well that he adhered strictly to their practice, in the lessons of that noble philosophy, for he will find no rash innovations among them, but every thing adopted and regulated by a sound induction from experience. They do not swagger, and glory, and puff, and blow, and brag and bluster; they are content to be quiet, unobtrusive, unostentatious practitioners, in the experimental philosophy.

We will venture to say, without fearing that we shall be liable to the imputation of stating the matter too strongly, that no generation of men ever introduced more unquestionably valuable improvements, than the present generation of cultivators in this northern part of the kingdom. Although the resident population is doubled, they have converted a district that not long ago imported grain, into one that now exports it to a large amount: and they send out ten-fold the value of the animals, yearly, that their fathers did. If, according to one of the highest authorities upon the question, "he who makes two blades of grass, or two stalks of corn, to grow where only one grew before, confers a greater benefit upon mankind than the whole race of politicians, from the beginning of the world, put together, have ever done," then what benefit have they conferred, who have tripled or quadrupled the agricultural produce of a whole county? But, if they wish to secure similar benefits for themselves and others in the time to come, let them proceed as they have hitherto done. Let them not adopt the sudden and untried changes of the politician—sterile yet, it seems, on such high authority, of any practical benefit. They know that all their most valuable improvements and beneficial practices—such as stand the test of time, and become the more approved of the longer they are continued—were introduced by them, bit by bit. It was not the harangues of an itinerant orator like O'Connell, who roused the low radicals of Edinburgh to demand the degradation of the House of Lords, although it is our only protection against the many-harrow-toothed tyranny of the Commons; nor was it printed lectures, like those of the *Aberdeen Herald*, who would persuade us to pull down our parish churches, that we may have the pleasure of building others with the money taken out of our pockets, and urges the

THE WAX PLUM.—This tree attains the height of 180 feet. Humboldt considers it as the loftiest of the vegetable world, but it is exceeded by the pines of California, some of which have grown to the immense height of 230 feet, and the Norfolk Islands pines (*Aracaria excelsa*), which measured 228 feet. In "Barnett's Outlines of Botany," a pine is said to have exceeded 400 feet, which is the height of St. Paul's. The spruce fir of Norway is said to attain from 150 to 200 feet in height. Measuring the *Pinus Douglassii* (timbers whose bases are unequal, measured as the frustum of a cone), it gives 397 loads, six feet of timber. The *Pinus Lambertina* gives 429 loads, 14 feet. Some of the trees of this class (branching trees) certainly attain a great age. Such is the farmers dragon tree (*dracæna draco*) of the Franchi garden at Outawa, now called Tawra, in the island of Teneriffe, which was celebrated so far back as 1402, when the island was discovered, and which was then an object of veneration to the people. In a note to the preceding we find this sentence:—It grows in the garden of M. Franchi. In 1799 it measured 45 feet round. Humboldt considers it with the Boadad, to be one of the oldest inhabitants of the earth. The *dracæna*, though cultivated in the Canaries, were originally from India. In the review of Humboldt, in the *Quarterly*, some objections are raised to the age he has given to this tree. Mr. McWilliam, in his Essay on the Dry Rot, says, "Many trees might be mentioned in this and other countries, which bear sufficient testimony of being far above 1000 years old;" and he gives reasons for believing that several trees now exist more than 3,000 years old.—*American paper*.

scheme with a pertinacity, that might make us think he firmly believes we are simpletons enough to follow his counsel—unless his purpose be rather to get us to dispense with all churches and all religion, that we and our families may live and die like beasts; it was no such theoretical harangues and lecturers that made our farmers adopt, all of a sudden, the extensive cultivation of turnips, or sown grasses, or any of their other numerous advantageous processes, of which their fathers were ignorant. They adopted these processes by degrees, after making experiments in them on a small scale, and without at any time committing much of their property to the hazard of an untried novelty. It is in this manner that they have been enabled to introduce improvements, such as a sound judgment now sanctions, and enlarged returns amply vindicate; and it is in this manner they have acquired a perfect practice in all the detail of the operations necessary in their new system.

If the short-horned variety of cattle are ever to be extensively introduced in this country, it is to be in the same way that all our other improvements have been adopted. It will not be in consequence of any abstract or theoretical reasoning on their merits, but when they are found on experience to be more profitable than any other stock; and the experiments are, with the usual caution, to be made on a small scale—for it is not necessary, to have these conducted in the most satisfactory manner, that all the breeders of cattle should at once make the trial, or dismiss their other stock, to rear them alone. Not a few experiments have been already made; and the great demand for Mr. Barclay of Ury's young stock of short-horns, at his recent sales, shews that more are about to be made. Let us proceed here to inquire what the experiments already made have taught. We speak from observation and some experience.

We have to remark, in commencement, that a most extensive experience, antecedent to any trials here on the particular breed in question, has proved that the animals raised as farm stock, grow within certain limits large-bodied, in proportion to the full and constant supply and goodness of their food—not, however, so much in individuals, as in successive generations or races. Thus, to explain our meaning, we may refer to the horse, the races or generations of which, in the rich lands of Suffolk, Lincoln, or Yorkshire, where they have at all seasons of the year an abundant supply of food, are six times the size of the Shetland horses, which, in a northern and cold climate, have only a stunted provision even in summer; and a very inadequate one in winter. If we refer to the sheep, experience teaches us a similar lesson. Those races bred on the rich pastures of England, are twice as large as those which are natives of the Grampians. But the truth holds good only in respect of the races; for were we to take a young individual of the Shetland horses, or of the Grampian sheep, to be fed in the English pastures, it would not grow much larger than it would do if left in its native place. In short, it would not at all approach in size to the animals which, for many successive generations, have been reared on these abundant pastures. It is not the individual, then, but the race, after a long time, that accommodates its growth to the fulness or scantiness of the food.

Experience also teaches us, that the breeder of all agricultural stock succeeds best, when he makes choice of a breed or race of animals which nature, through a long succession of generations, has already adapted, in its size, to the supply of food which his farm regularly produces. If he departs from this principle, he will not gain the advantages he might

otherwise possess. Thus, were he to adopt a breed too large for his keep, if the animals did not absolutely perish, they would at least degenerate from generation to generation, as experience in time past has shown they have done. The Suffolk race of horses, transferred to Shetland, would certainly in some generations degenerate into Shetland ponies; and the Leicester sheep, if they could be made to live at all on the Grampians, would dwindle by degrees to the size of the black-faces. Were the small races, on the other hand, transferred to rich pastures, the same advantage would not be derived from them, as from races of native growth already come up to fit them.

In Aberdeenshire we possess a native race of black cattle, whose size had been adapted, through ages past, to the supply of food that could be furnished to them under an old and very imperfect system of cultivation. Antecedently to the introduction of sown grasses and turnips, their food in summer was the native late-growing wild grasses, and in winter, only oat and bere straw. With such keep, no other race could probably have been substituted for the native one, with any prospect of advantage.

But in respect of keep, the condition of this country is now so much changed for the better, that it may be pronounced questionable, whether any part of the kingdom could be named where it exists at all seasons in greater profusion, or of a kind that cattle more delight in or prosper upon. It is very true, the grazing season is much shorter than it is in England. The beasts do not find a bite in the fields so early in spring, and the autumnal frosts cut off the after-growth long before it fails in the warmer climate of the South; but this disadvantage is fully compensated by our luxuriant crops of turnips, which give a highly nourishing supply to the animals during the months when the grass fails. There is in fact, no period of the year when an Aberdeenshire cultivator, unless he has overstocked his farm, has not abundance of that sort of food with which animals can not only be kept on in their former condition, but absolutely be improved, and fully fattened.

The effect of this regular and abundant supply of good provisions for them obviously is, that our native race of cattle are increasing in size, from generation to generation, and will no doubt, in course of time grow up to equal the largest races. But this appears to be a slow process. They are already, no doubt, much larger than they were thirty years ago, when fed only on wild grasses and straw; but they are yet far from approaching in weight to the large races of the South, which have been for many ages supplied with full and good keep; and the question which we have to decide is this: ought we to wait till our native race, by a process obviously going on, although very slowly, shall come up to sizes adapted to our now superior means of keeping them; or shall we introduce a breed which has already, through a similar process of much longer continuance, reached a much more advanced, perhaps the ultimate stage of the process?

Such a breed is the short-horns. It is already one of the largest breeds known in the world; and it possesses one advantage, which perhaps no other breed whatever possesses in an equal degree, which is this, that great numbers of skilful and experienced persons have, for a long series of years, not only adopted this large breed in preference to any other, but have selected out of itself the animals that they deemed of superior quality, to breed from them alone; so that it now, above all other races, may be called a picked and chosen race, from which all beasts having any imperfection have been carefully excluded.

Trials of this breed have been already made in Aberdeenshire to a considerable extent; and the experience thus had, teaches us that the quantity and quality of the food now here supplied, not only prevent the animals from becoming deteriorated, but fatten them in the highest perfection; and also, that our system of housing in winter, which we had adopted even for our native beasts, prevents them from suffering any injury from our colder climate.

But there are many additional points to be settled, before we can pronounce on the propriety of their adoption. Our small native animals are well adapted for bearing the fatigue of a journey to England, the great market for our store beasts. The dealers tell us, the short-horns cannot encounter the journey so well. Fortunately the steam ships have come into use, to remove all objections to them on this ground. They take the highest-fed and heaviest beasts to the central market, at a rate of expense, in proportion to the value, little higher than that incurred in sending the store cattle by land.

Our native animals when fully fed, on account of their finer quality, bring a somewhat higher price in the London market in proportion to their weight, and we hear often much stress laid upon this circumstance by those who argue against the introduction of the short-horns. Let us see what experience teaches us in the real amount of their inferiority in this respect. We have the most auspicious and satisfactory evidence upon the point, in the weekly reports of the Smithfield market. On observing these for a considerable time past, it will be seen that the best Scotch beasts give from one penny to two-pence more money per stone, than the best short-horns. This is a disadvantage on the part of the latter, in respect of value, from about two to four per cent., and must always be fairly granted when we weigh the expediency of persisting in our native race, or introducing the short-horns.

The disadvantage is certainly not of such magnitude but that it may be overbalanced by compensating advantages, as by freer growth, or quicker feeding. We do not mean to exhaust the subject, and in fact, have not sufficient experience to settle all the questions relating to it; our object is to excite attention to it, that the result of the numerous experiments now making may be satisfactorily watched, and promulgated for the general good. But we can yet add a few more facts. Our native race cannot be fattened till they are three and a half years old. The short-horns can be perfectly fattened when taken at two and a half years. The native race, no doubt, from breathing the free air of the North, have not a little of the *perfidum ingenium* ascribed to another race which inhales the same exhilarating breeze. They are restless, not easily restrained by fences, and often eagerly set upon combat with their congeners. They neglect the finest pastures, for their amusements, and of course acquire a great vigour of muscle, without a corresponding weight, which would be more admired in the eyes of their owners. The short-horns, long more thoroughly domesticated, are much gentler in their tempers—fighting once for victory, but, after that is decided, rarely renewing the combat—inclined rather to enjoy the good pasture of their own field, than to break into that of their neighbour—and, of course, to become lazy and plump. In short, to employ a celebrated term of a celebrated president of the Board of Trade, what they get *fructifies* well with them.

The crosses between the short-horns and natives are much better known here now than the pure short-horns. Experience certainly proves them to be valuable stock. The native bullocks of two and a

half years, weigh from 25 to 30 stones Dutch. The crosses of the same age, weigh from 35 to 40 stones or more. Here is a great superiority in point of weight; and the crosses being good travellers, are not rejected by the drivers over land. They have much of the gentler tempers and feeding qualities of the pure short-horns.

An Aberdeenshire farmer having been accustomed to black colours in his cattle, often dislikes the short-horns on account of their white colours. Yet the black is an artificial colour, and white the original native. The only unreclaimed, truly wild animals of the species known in the world, are those found in the parks of some of the nobility of England, where they have been preserved as a curiosity from a period antecedent to history. They are of a pure white, with black hairs at the ears and mouth only. Colour is a matter so exclusively of taste, having no relation to profit, that we might have left it without observation. But tastes differ exceedingly. Thus, see what a native of a different part of the kingdom says on the subject: To those who admire well bred short-horns, Alwrick Fair is a treat. Their good-breeding, fine symmetry, and bright colours, give a splendid appearance to this market. How different to some other markets, where the cattle show bad breeding, are void of symmetry and present dingy colours."—*Quarterly Journal of Agriculture*, vol. v. p. 279.

In conclusion we remark, that it is quite obvious the short-horns can only answer on farms where all the grass is of full bite. They can never be introduced in the native glen and mountain pastures of the north of Scotland. The small native beasts only can thrive there. Thus, there is no fear that they will become extinct, or that there will not always be a large supply of them for the drover, and for furnishing the tables of the rich with their finer beef.

—*Aberdeen Herald*. A CORRESPONDENT.

THE HARVEST SUPPER.

FROM THE COMIC ALMANAC.

The latest load from the field is come,
 "Hip ! hip ! hip ! for the Harvest Home !"
 The guests they throng to the feast in swarms,
 More men than manners, more chairs than forms ;
 And 'twould puzzle a lawyer here to point,
 And prove that the times are *out of joint*.

I love fat *fowls* in a bill of *fare*.
 Yet this, for ever I will declare,
 That the dish, however it may be scorned,
 For a harvest supper, is beef that's *corned*.

I love a dame of the good old sort,
 The piano not her only forte,
 Her sons, who something know beside
 To break a pointer, drink, and ride,
 And daughters, who return from school,
 To feed the pullets, not dance *la poule*.

There are some that gather, who do not grow,
 And some that reap, who are but *sow sow*,
 But the honest farmer, blunt and plain,
 Who has never learn'd to drink champagne
 (Like some, or else I'm much mistaken),
 Who pinch the poor to save their bacon),
 May plenty crown his peaceful dome,
 And "Hip ! hip ! hip ! for his Harvest Home,"

ON THE SCAB IN SHEEP.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR:—Having in the spring of 1836 got the scab in my sheep stock, which was not perceived till just before clipping, as soon as the lambs were ready after weaning I had them rubbed with mercurial ointment, and the aged sheep not being so far grown in their wool as to shed it, what spared of the ointment got for the lambs I had rubbed on the backs from neck to tail on some of the worst sheep which were for feeding. Two of these were so scratched and rubbed with the ointment as to cause swellings to rise considerably on their shoulders and chine. In October I had all the ewes and aged sheep taken up to apply ointment to them, and on examining those partially rubbed previously they were found to be clean where the ointment had been rubbed but as bad as need be everywhere else. I felt convinced from this that it was essential to have the ointment well spread over the whole surface of the skin, and that it must be the outward effect of some insect, (as it is said of the itch) and not an inward complaint. I therefore had the flock done carefully, sheds every inch or so, and on repeating it in February for fear of failure, only found one or two which were at all affected, and which I apprehended had not been quite so well spread towards the shanks. I found the whole flock clean at clipping this year, and wish to offer this as a hint or suggestion to others who may require a remedy. I have known several instances of failure, but on inquiry have found the owners have allowed their shepherds to lay, perhaps, three sheds on each side of the sheep, and the ointment would, consequently, not get well over the surface. The ointment should not be made of any other than pure mercury. My shepherd went last week to salve four or five sheep for a neighbour, which had been salved with ointment before thinly as I have shown is practiced by some, and which were as bad as they could be. He says he laid at the rate of 10lb. to the score. They are, I believe, doing well, if they fail I will give the particulars at a future day. I shall be glad to see some further remarks by your professional or other correspondents on this disease.

I am, Sir, Yours,

Holderness, Nov. 1837. PLOUGHSHARE.

ON RECLAIMING MOOR AND MOUNTAIN.—First, mark out, in straight lines, the fences, whatever the size you intend your fields to be. At the breadth of three fields, enclose a space of sixty yards, or more, to run the entire length of the farm, for planting. When planted with trees suitable to the description of soil, register. Before twelve months, run other belts of plantation at right angles to this, at the end of every three fields, from end to end of the farm, and at the outside of the breadth of the next three fields, enclose another long, wide space, and plant it, and so on at the breadth of every three fields, so that every nine fields will be enclosed with a belt of plantation. Four acres is a very good size for each field, and then every thirty-six acres will have a plantation, at all sides, of sixty yards wide, at least. Plant the quick-growing kinds—Canadian poplar, timber sally, and intermix with other kinds; Cobbett's acacia, by all means, in sheltered situations; very few Scotch firs; alder very good to

plant extensively. I would recommend the planting to be the first commencement of mountain improvement; then enclose your fields, and sow the tops of the banks with furze seed. In tracts of mountain, which are large and flat, narrow canals, to intersect the fields, in place of banks, will answer a double purpose; all the manure and produce can then be taken, with little labour, to and from each field, by boat; by planting the banks with timber sally, alder, poplar, &c., the waste of ground will soon be repaid. Arthur Young recommends the canals to be seven feet wide at top, four feet at bottom, and six feet deep. As far as the soil is peat, it can be cut in blocks with a hay-knife. Those fields which a farmer cannot readily cultivate in the proper manner, he can make produce a much more valuable herbage than heath, by pulling the heath, heavily harrowing the land; if possible top-dressing with lime compost; harrow and pulverize as much as possible, and sow it with white York meadow-grass, and a few pounds of white clover and trefoil to each acre; and, when the grass has covered the ground, irrigate if possible; but this is but merely temporary, until he can give the land the proper rotation. Extensive cultivation of rape, for seed, would give you a large return. I refer you to the directions for that crop; but as, on an extensive scale, grafting would be very expensive, the fields should be ploughed, cross-ploughed, and the surface burned in clay-kilns. After the fire is well established, damp and even wet sods and clay will burn—water increases, instead of diminishing, the heat; then plough into beds, so as to give an artificial fall to each bed, as directed for surface-draining; this is essentially necessary for all peaty soils, which are retentive of water; and, if they do not get an artificial fall, the crops will be a failure; but, by all means, plant florin, where you can water. I once compelled a farmer to plant florin on a flat bottom, which he could abundantly irrigate; he planted, in November, two acres, and, from the following October to March, he supported seven cows and four horses on the produce; he cut it daily for the cattle. Those two acres would not have kept a Kerry cow alive, before; they were good for nothing.—*Correspondent of The Southern Reporter.*

ON MANURES.—In manuring ground, it has ever been a desirable object to reduce the expence of cartage. A manure so concentrated in its fertilizing properties that two or three quarters are sufficient for an acre, must be a desirable event. This has been accomplished by some gentlemen, who have, by a combination of chemical and mechanical knowledge, so concentrated the offensive odours (retaining the fertilizing properties) of human soil, so as to make it applicable to all kinds of agricultural and horticultural purposes; the noxious matters of great cities and towns are now reduced to the state of powder, so as to be easily applied in various ways. Numerous experiments in a variety of soils have satisfactorily proved the superior utility of the manure so prepared for promoting the growth of plants; and the pamphlet of Dr. Granville, addressed to the Thames Improvement Company, fully demonstrates the loss sustained, by not husbanding the fertilizing properties of the numerous sewers of London. The pamphlet, also, of C. W. Johnson, Esq., lately published, on liquid manures, shows the advantage the sewers have been to the poor sandsoils, near Edinburgh, converting land which was useless into a state yielding 20l. per acre yearly rental. The people of London are only just now waking out of their lethargy, and offering to apply the fertilizing matters

the sewers impart, to the benefit of the surrounding soil. The articles prepared on these principles are known as *Lance & Co.'s Animalized Carbon* and *Carbonized Humus*, and have been selling in London for the past three years. But so ignorant have the public been generally on this subject, that a Frenchman has lately come to this country, and taken out a patent for this kingdom, to make the same preparation as in Paris; but the practice had been anticipated for two years previous to his patent, by the present makers of the articles named above. The article *Humus* is identical with vegetable earth, as described by the old chemists, in their analysis of earths. It is the slow decomposition of animal and vegetable matters; and now agreed by the scientific to be called *Humus*. The account given of this substance in the "Penny Encyclopædia," under the head of *Arable Land*, is, that it is the base of all vegetable substances; it is the source, as well as the product, of living matters; it renders sterile clays porous, and consolidates loose sands, more so than any other material. This same manure has been used on the continent of Europe with great success, as a steep preparation for seed, and for watering flowering plants, and is totally divested of unpleasant odour. By the agricultural public adopting this renovating article for giving energy to their land, they will be taking advantage of the abundant fertilizing matters which are imported to our country from foreign parts; the sugar of the Indies will then become a constituent of the corn of this country, instead of being sent into the ocean by the waters of our rivers.

THE MANGEL WURZEL POTATO.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I shall be obliged by your inserting in your clever and excellent paper, the following account of the Mangel Wurzel Potatoe, as it may be acceptable to some of your readers.

In April I planted in my garden, (the soil of which is gravelly but in good heart) five pounds of the potatoe in a drill ten inches deep and three perches long; one-half of it was manured with stable dung, at the rate of twenty tons per acre, the other with *Lance's humus* at the rate of fifty bushels per acre, but to the first two sets a much larger quantity was added, without producing any superior advantage. The potatoes were dug up on the 29th Nov., and the produce was rather in favour of the *humus*; the weight after they had been carefully washed and dried, was 250lbs., which, if my calculation be not wrong, and they had been planted in rows three feet apart, a distance requisite from the length of the haulm, is equivalent to 34 tons, 15 cwt. 1 qr. 12lbs. per acre; the blossoms of those planted on the dung were carefully picked off; the distance of the sets was one foot; some of the potatoes were of a most irregular and fantastic shape; one weighed four pounds two ounces. I have not the least doubt that this potatoe planted in a strong well manured soil, would produce more than forty tons per acre. It is only fit for cattle and hogs.—I am, Sir, your obedient servant,

STEPHEN TUCKER.

Welling, Dec. 1.

CIDER-SHOPS THE RUIN OF AGRICULTURAL LABOURERS.

TO THE EDITOR OF THE EXETER FLYING POST.

SIR,—The Earl of Devon, in his address to the jury at the last sessions, says, that all may do something for the repression of crime. As a humble individual, I would wish to point out and hold up to reproach the greatest evil which exists in the rural districts, and, I believe, through the country generally. It is the beer and cider shops that I would hold up to view, that those in authority may be made acquainted with their pernicious consequences. In travelling on the public roads of this county, it is no uncommon thing to see ten or a dozen carts drawn up at the door of some miserable cottage, which is well known to travellers as the sure indication of a shop for selling liquors. I would wish to be understood as not wishing by any means to hinder the poor from buying their liquor at the cheapest rate, and think that it ought to be sold like bread; and surely the baker would deem it a great hardship to provide room for all his customers to consume the bread he sells them in his house. I say that no person ought to be allowed to drink in these shops; they are generally considered as nurseries of crime, where apprentices and servants find too often a disposition to receive goods not honestly gotten; and, from the seeming cheapness of liquor, induces many unthinking persons to spend very much more money than they would if it were carried home by the purchasers to their dwellings. Perhaps drunkards may eulogise it as a great boon to the labouring classes: and it is, properly conducted, but not by consuming it there; and I will venture to say that the wives and families of our labourers would be glad to see a stop put to it. Another evil resulting from it is the violent driving often witnessed on the public roads, putting the lives of many in danger by such conduct, and frequently injuring the cattle intrusted to their care by chills, &c. Before these shops sprang up, scarcely any one thought of stopping to drink by the way on their road home from market; but now so enticing is it to be enabled to have liquor so cheap—and at every two or three miles you find them—that a young man must have a good heart indeed if he escapes the snare laid for him. Having thus pointed out what I consider to be the greatest temptation to crime, I will leave to those who know better than I to think of a remedy for it, and will conclude with giving a specimen of their fruits. At a beer shop about ten miles west of Exeter, a party consisting of some of the lowest class of farmers and their servants, had been drinking nearly the whole of the Sabbath-day, when the father of one of them living near by, a man about seventy years old, went to the shop, and requested his son to go home to his wife and family. This was the signal for a general row, and a torrent of abuse was heaped on him, and they actually stripped to fight him, two of them following him to his own door. This was on the Sunday evening, in a turnpike-road. Can we wonder, then, if crime increases from such occurrences as these? The son of the old farmer went home some time after, and wreaked his vengeance on his poor wife.

Nov. 25, 1837.

C. E. M.

THOUGHTS ON DRAINING, AS A PROFITABLE OUTLAY OF CAPITAL.

FROM THE QUARTERLY JOURNAL OF AGRICULTURE.

In expressing these "thoughts" on draining, our sole object has been, to recommend to all landholders, in the strongest manner, not merely draining, which may be accomplished in the usual manner, by putting a drain here and there in the most apparently damp portions of a field, but *thorough* draining, which will most effectually render every portion of a field, whether apparently damp or no, so dry, as that they may be worked in the most untoward circumstances of weather, the soil derive the entire benefits of the manure, and vegetation proceed in an almost uniform progress to maturity in a comparatively short period of time. Thorough draining can alone attain these objects; because, as extensive experience in draining has convinced us, and still more extensive observation of the practice of others has corroborated that conviction, the vast proportion of the arable soil of this country rests on a clayey and therefore retentive subsoil, the rain falling on which percolating through the arable soil remains stagnant, and this stagnant water does much greater injury to the arable soil and its products, than the water from any number of springs that are found to pervade land. This being the physical condition of the arable soil in general, it is clear, that that kind of draining which will most easily relieve stagnant water, will effect greater good to it than any other; and that kind can be no other than thorough draining. There are, perhaps, various ways of performing this operation; but the very obvious one of running a drain up each furrow, suggests itself as that which affords the most numerous outlets to the stagnant water. We presume there cannot be a difference in opinion regarding this obvious fact, whatever difference there may be in the practice of drainers. In farming, practice does not always consecutively follow opinion; because differences in practice are entirely guided by differences in expense, that is, present outlay. The present outlay will, no doubt, be less in the case where a drain is run up every alternate furrow, than in that up every furrow—a plan recommended by some drainers in order to mitigate present outlay; and should the nature of the subsoil admit of this distance for its *thorough* draining, it is quite sufficient, and a greater outlay in such a case would of course be only a waste of money. But no greater error can be committed by a drainer than to run a drain up every other furrow, with the view of saving present expenses, and with the intention of completing the draining by running a drain up every furrow at some future period; because the intermediate undrained space or ridge, resting on retentive subsoil, will derive as little benefit by only draining the alternate furrow, as if no draining had been effected at all, and all the manure, lime, and labour expended upon it in the mean time will have been thrown away. Far better drain the half or any portion of the field effectually, than go over the whole in such a superficial, and in the end it will be found to be an unsatisfactory, manner.

But an apprehension may reasonably arise on the quality of the soil thus thoroughly drained repaying the outlay of capital. If the soil is of that inferior nature as to justify such an apprehension, it is an easy matter to restrict the experiment, and

to drain a small portion of it, and subject it to a rotation of cropping, and observe the result. A small experiment cannot require much outlay, and at most the loss cannot be great, should the result be unfavourable; but should it succeed, of which there is the greatest probability, a safe guarantee will have been given for future extended success. The experiments also of others should stimulate to imitation, and will allay apprehension. As a means of allaying apprehension on this head, we shall enumerate the favourable results of some experiments of the kind which have come to our knowledge through the liberality and kindness of the experimenters themselves.

The result we shall first notice is derived from the experience of Mr. North Dalrymple, of Campie, near Musselburgh; and in reference to the improvements on his estate of Cleland, in Lanarkshire, he thus expresses himself in respect to thorough-draining:—

"I am clearly of your opinion," he says, "that well authenticated facts on economical draining, accompanied with details of the expenses, value of succeeding crops, and of the land before and after draining, will be the means of stimulating both landlords and tenants to pursue the most important, judicious, and remunerating of all land improvements. The statements below will prove the advantages of furrow-draining; and as to the *profits* to be derived from it, they are *great*, and a farmer has only to drain a five acre field to have ocular proof upon the point."

No statements can be more satisfactory in themselves, and more encouraging to drainers than the following. They will be best given in Mr. Dalrymple's own words.

"1832. No. 1. Easter, Ladywell, and Whinny fields, containing 54 acres, cost 303*l.* 7*s.* for draining; average, say 5*l.* 12*s.* per acre. These fields were *not* furrow-drained, but cross-drained, and are *not* dry enough. The wheat sold for 11*l.* an acre in the Easter field. The turnips in the Ladywell field at 25*l.* 13*s.* 4*d.* The drains were all built and covered with small stones, which were obtained quite at hand. The land was formerly completely covered with rushes. Soil, stiff (provincial *chatterry*) clay, and used to let in pasture at 20*s.* an acre. Last summer (1836) the Easter field fed five cheviot ewes and lambs upon an acre.

"1833. No. 2. Horselees and Jennyside fields, 18 acres, cost for draining 98*l.* 7*s.*; say average, 5*l.* 9*s.* per acre. These fields were furrow-drained, 18 feet between each drain, 30 inches in depth, cut with the common and narrow spades, and filled eighteen inches with slag (*scoriae*) from an iron furnace contiguous. All the mouths of the furrow-drains terminated in main drains 36 inches in depth, laid with tiles and soles. The fields are *now* perfectly dry. There was a very fine crop of wheat (about eight acres) which sold for more than 13*l.* an acre. The potatoes brought 15 guineas, and the turnips 21*l.* The land was formerly occupied with whins and rushes, and let for 12*s.* an acre. When let for pasture, I expect to get 50*s.* an acre for the land.

"1836. No. 3. Longbog, 9 acres. Cost for draining 69*l.*, say average, 7*l.* 13*s.* per acre. This field was furrow-drained 16 feet between each drain, 30 inches in depth, and cut as in No. 2. The field is *dry*, and bore a good crop of oats. The land was previously drowned with water, and covered with rushes, and brought about 25*s.* an acre for grazing. A large portion of this field was very stiff clay; but now (February 1837) that it has been twice

ploughed, the soil is quite changed both in substance and colour. The reason why this field cost so much more for draining than No. 2 was, that it was drained in very wet weather, when the land became so poached with carting, that I was nearly beaten with it."

Another testimony is Mr. James Howden of Wintonhill, near Tranent, and although his is not so satisfactory as the foregoing, inasmuch as it does not exhibit so many particulars of expense and produce, still it is an encouraging statement for tenants, in regard to the outlay of money in thorough-draining. In corroboration of sentiments which we have often expressed, Mr. Howden says,

"I have practised the system of furrow-draining to a considerable extent, and am fully satisfied that it is one of the greatest improvements ever introduced into our agriculture. It is not easy to say, with certainty, as to the exact increase of produce which may be derived from it, so much depending on the nature of the soil and the seasons. The farm which I at present occupy consists mostly of a clay-soil, resting in general upon a retentive subsoil, and, consequently, was much injured from the retention of rain-water, and, in some places, from water springing from below. The method I am adopting for laying it dry is, where the subsoil is very retentive, to put a two-feet drain into each furrow, the breadth of the ridges being eighteen feet. Where the subsoil has a tendency to draw under-water, I lay two such ridges together, and put a drain in each furrow, the depth of which is regulated by the nature of the subsoil; but in general they are $2\frac{1}{2}$ feet in depth. There being but few stones on my farm, I use tiles; which I find to answer uncommonly well; indeed, I would prefer them to stones, even admitting that I had them upon my farm, for these reasons:—Drains are cut in winter, and in most seasons, and particularly the present, it is almost impossible to get stones brought forward to the drains, and to induce women to fill them; besides, the injury which the land sustains by poaching with carts is considerable. Where land has a good declivity, stones, when well broken, will admit the water for a considerable time; but when land is nearly flat, tiles have a decided advantage for durability of drain. In covering in the tiles, I either put in some brushwood or mix a little of good earth with the subsoil, in order to allow the absorbed water to sink more freely into the drain. I am aware that some people have a prejudice against tiles, and allege, that in a few years the earth above them will consolidate so much as to become impervious to water. I can only say, that I have used them for twelve years, and find the water making its way by them as freely as when the drains were first executed. With regard to the expense of draining a Scotch acre with tile-drains at eighteen feet asunder, and two feet in depth, it will cost for cutting and filling $3\frac{1}{2}$ d. per rood of $18\frac{1}{2}$ feet, or 2l. 6s. per acre. Prime cost of tiles is 40s. per thousand.* Being seven miles distant from the kiln, I must add 8d. per thousand for carriage. Say that 2,700 tiles are required, their cost will be 6l. 9s. 6d., making the total expense of draining 8l. 15s. 6d. per acre. The expense no doubt is great, still I am of the belief, that upon all damp heavy lands furrow-draining will repay, on an average, from 15 to 20 per cent. on the outlay."

Here we have the encouraging testimonies of both a landlord and a tenant, as to the remunerating returns derived from thorough-draining. Many

similar results, we have no doubt, have been experienced by many drainers, had we been so fortunate as to have ascertained them. Abundant testimony on this subject would be very desirable; for in such a case, "in the multitude of counsellors, there is safety." We regret, however, to find that improvers, especially tenants, are averse to disclose the favourable results of their improvements, in the belief, we presume, that such disclosures might reach the ears of their landlords, and ultimately militate against their interests when their leases are to be renewed, by raising the value of their farms. Such a motive for silence on this subject springs from an error of judgment, for it is impossible for any improver of the soil to conceal his operations from public view, and although every spectator may be unable to ascertain the exact cost of all the particulars of the improvements which he sees carrying on, yet it is impossible to prevent any proprietor or his substitute from judging of the increased value of the land improved, and exacting a proportionably higher rent on a new lease. The attempt, if made, would prove fruitless. But there is inconsistency in tenants in attempting concealment of the advantages of improvement, on the ground of rents being raised, for they never hesitate on imposing increased rents on themselves by prosecuting improvements, to the extent of six or eight shillings an acre, or even more, if they conceive the improvements will repay the outlay during the currency of their leases, and yet few landlords are disposed to demand such an increase of rent on a renewal of lease, as the favourable results of the outlays of their tenants might justify; few of them we believe are disposed to ride the willing horse to death. Besides tenants who are disposed to expend large sums on improving their landlord's properties, know that the rent forms but the smaller portion of their annual obligations, and of course any fair addition to it will bear but a small proportion to the advantages derived from the improvements which have enabled them to raise a large increased produce from their farms, with the usual amount of labour. But apart from any other consideration, there is selfishness in desiring to conceal advantages, when derived from improvements conducted on any applicable principle, from their brethren who are placed in similar circumstances. On the contrary, it is wise policy on the part of all tenants, and particularly on those who apprehend an undue increase of rent, for none can complain of its fair increase, to divulge the results of their improvements, whatever they may be; because, should they be favourable, and effected under selfish and avaricious landlords, the more widely will their principles be promulgated, their system of improvement extended, and the conduct of the more generally generous landlords will of course render that of the selfish, by contrast, more amenable to public opinion. Fortunately, however, for the encouragement of industrious and improving tenants, landlords now-a-days know their own interests better, than to take improper advantage of the improvers of their own properties. Indeed, we know it to be the practice of some of them to discharge the expenses of cutting and tiles, and charge the tenants with 5 per cent. on the outlay, a very equitable arrangement, and one equivalent to a loan of capital to the tenant.

These remarks might fitly terminate the thoughts on draining as a profitable outlay of capital; but there are some considerations of a practical nature connected with thorough-draining, which yet

*This price is much too high.—EDITOR.

deserve attention. Some farmers are puzzled about the draining of flat fields. There are very few fields that are perfectly flat, but there are none that the spirit-level cannot give ample information of. A fall of one foot in three hundred, with a tile and sole opening, is quite sufficient for the flow of water. In order to increase the fall, the drains may be cut a little deeper towards the lower ends. These expedients will secure egress to the water out of the drains; but the fall on every ridge, from its crown to the bottom of the drain in each furrow, is of itself quite sufficient for the drainage of the ridges.

The ameliorating effects of thorough-draining should not be expected to develop themselves at once. A little time is requisite to get quit of the water with which the soil above the level of the bottoms of the drains are surcharged, besides the absorption of the fresh rain that may have fallen on the land in the mean time.

Much unnecessary fear is expressed about bringing the *till* to the surface. If much cold wet clay, in proportion to the soil, is brought up at once immediately after draining, and mixed with the soil with only one ploughing, the probability is, that the succeeding crop of corn will not be much worth; but if a little of it is brought up before winter, and subjected to the influence of rain, frost, and air, manured and intimately mixed with the surface soil, the succeeding crop itself will most probably repay the expense of draining. For a corn crop, however, to succeed well after thorough-draining, the drains should be formed in autumn or winter on lea which is to be ploughed in spring in the ordinary way, without bringing up any of the clayey subsoil. Should it be desired to expose any of the subsoil, it is best ploughed up with the stubble when drained before winter, and the first crop should either be potatoes or turnips, perhaps always the latter, in order to afford more time for the working and exposure of the land.

There is no urgent haste for breaking up the *pan* or band of the clayey subsoil immediately after thorough draining. With a little patience the desiccating power of the draining will effect much for the drainer in that way. The pan is generally composed of a portion of clay indurated with an oxide of iron. So long as water is supplied before draining in a stagnant state to the ferruginous substance, the oxidation progresses and accumulates. When the source of oxidation, on the other hand, is removed by draining, the pan loses its induration, moulders into a loose earth, and the iron in it forms new combinations with acids in the form of salts, which, on dissolution, either assist vegetation, or neutralize the injurious properties of other obnoxious ingredients in the soil. A deep ploughing after this change has been effected, will accomplish more for rendering the soil a fit abulum for plants, than any previous deep or subsoil ploughing.

Nor should lime be too hastily laid on land after being thorough-drained. The more intimately lime is mixed in or with the soil, the greater are its benefits. It cannot be intimately mixed with the soil until the latter is properly pulverized; and the soil can only be properly pulverised, after having been in the first instance well worked. These are progressive operations and require time. Lime can only thus be judiciously applied to the soil when in preparation for the fallow-crop. As to the time for its application, there will hardly be time before the planting of potatoes, and we be-

lieve it has been found to bestow no immediate advantage on turnips, so that it may be applied immediately after the removal of the potato in autumn or the turnip crop in spring. It can be most equally spread on the ground pattered by sheep when fed on turnips, and ploughed in immediately after with a light cross furrow; and the subsequent seed-furrow in the direction of the ridges will most effectually mix the soil and it together; or it can be spread after the cross-furrow and immediately harrowed in. This latter plan, though not so easy for carting, or perfect for spreading, is nevertheless the safest for preserving the lime, for should rain or wind ensue after the lime has been spread upon the pattered land, it might become affected by the rain or blown about by the wind, before it be covered by the plough-furrow. The succeeding crop of barley will derive immediate benefit from the lime, in strengthening the straw and giving it a bright colour, and in hardening the grain and rendering it more fit for malting.

We conceive we cannot present a greater inducement, or afford a greater encouragement, to the farmer for prosecuting any operation by a reference to stronger facts than those we have at present offered for the prosecution of thorough-draining. Let him therefore commence it, if he have not already done so, with vigour, pursue it with confidence, and he will assuredly long reap the fruits of it with profit.

THE RUGBY CATTLE SHOW, on the 28th Nov., was attended by a great many of the leading gentlemen and agriculturists of the midland counties, as well as by several ladies, who expressed themselves most highly gratified with the show, and the great attention of the stewards. Mr. Thomas Chapman, of Stonleigh, and Mr. Thomas Umbers, of Wappenbury, were the judges, assisted by Mr. Thomas Newbold, of Baggington, in the absence of Mr. Joseph Hill, of Cottesbatch. They decided the prizes as follows:—

Class 1.—To Mr. Wratishaw's Hereford steer, aged 3 years and 9 months.

Class 2.—To Mr. Wratishaw's red Durham cow, aged 5 years.

Class 3.—To Mr. Wratishaw's heifer, aged 3 years and 5 months.

Class 4.—To Mr. Wratishaw's three shear hogs, fed without restriction.

Class 5.—To Mr. Worthington's three shear hogs, fed with restrictions.

Class 6.—To Mr. Wratishaw's three fat ewes.

Class 7.—To Mr. Worthington's five in-lambd ewes.

Class 8.—To Mr. Worthington's five wether lambs.

Class 9.—To Mr. Aaron Watson's pig, aged 18 months.

Class 10.—To Mr. Wratishaw's pig, aged 6 months.

The turnip prize was awarded to Mr. Thomas Berry.

Afterwards a large party of gentlemen dined at the Spread Eagle Inn, when sixty subscribers entered into sweepstakes for the next show.

Mr. T. Chapman, Mr. Bloxedge, of Warwick Park, and Mr. Pratt, of Newfields, were chosen judges for the ensuing year.

During the evening the company were highly gratified with the portrait of Mr. Wratishaw's roan Durham cow, bred by Sir Charles Knightley (which had been exhibited as extra stock), painted by James William Hillyard, Esq., R.A., nephew of the President of the Northamptonshire Agricultural Society.

ANNUAL MEETING OF THE LEICESTERSHIRE AGRICULTURAL SOCIETY.

The annual meeting of this society was held on the 1st December, at the Bell Hotel, Leicester. The show of cattle, sheep, &c., as compared with that of last year, was greatly superior, both in numbers and quality.

In the afternoon upwards of 150 gentlemen sat down to dinner in the long room, Henry William Wilson, Esq., of Alexton Hall, in the chair. Among those present were—Henry Green, W. P. M. Ouseley, J. Hood, T. Walker, E. W. Wilmot, W. Martin, Clark Hillyard, W. Tailby, and J. Clark, Esqrs., and Messrs. J. F. Hassall, T. Miles, B. Simpkin, W. Simkin, H. Chamberlain, R. Birkley, H. Paget, Charles Stokes, Christopher Smith, T. Jee, W. and and T. Hind, John Ellis, T. and R. Worthington, G. Kilby, N. C. Stone, W. Carver, T. D. Sykes, J. and F. Spencer, and F. Adcock, and the Rev. N. Morgan.

The cloth having been removed, the CHAIRMAN gave the toasts of "The Queen," "The Queen Dowager, and the rest of the Royal Family," "The Army and Navy," "The liberal Patron and honourable President of the Society—the Lord Lieutenant of the County," and the High Sheriff, Sir Arthur Grey Hazlerigge, Bart., all of which toasts were well received, and marked with appropriate honours.

The Chairman next proceeded to the distribution of the premiums and prizes, which occupied a considerable length of time.

The toasts of "The Ladies," and "William Herriek, Esq., of Beaumanor," from whom the society recently received a liberal donation, were succeeded by "The Clergy who have favoured the meeting with their presence, and exerted themselves in forwarding the benevolent views of the society." This toast called up the Chaplain—

The Rev. N. MORGAN, of Rearsby, who expressed his high approbation of agricultural societies, and stated that he had long thought, and was the more convinced as he advanced in years, that the prosperity of this country was based on its agricultural interests. (*Loud Cheers.*)

The CHAIRMAN gave "The health of Henry Greene, Esq., of Rolleston, and the Committee."

Mr. GREENE returned thanks, and proposed "The health of the Chairman," which was received with great warmth, eliciting several rounds of hearty cheers.

The CHAIRMAN briefly acknowledged the honour, and proceeded to propose "Success to the manufacturing interests of the country," "The Stewards of the present year, E. W. Wilmot, Esq., of Pickwell, Mr. G. Kilby, of Queniborough, and Mr. H. Chamberlain, of Desford," "The Judges, Clark Hildyard, Esq., of Thorpeldands, near Northampton, Mr. Stokes, of Kingston, Notts, and Mr. Smith, of Burley, Rutland," with various other toasts, which were duly acknowledged.

AWARD OF THE JUDGES.

A silver cup, value 10*l.*, to Mr. Smith, of Burley-on-the-Hill, for the best ox, under five years, of any breed or weight, open to all counties.

A silver cup, value 5*l.*, to Mr. John Thomas Smith, of Portland, for an ox shown in the same class.

A silver cup, value 10*l.*, to Mr. Wilmot, Pickwell, for the best ox, under five years old, of any breed or weight, not fed upon oil, oil-cake, corn, pulse, seeds,

or meal, before Aug. 1, 1837. (T. F. Turner, Esq.'s premium.)

5*l.* to Mr. Beasley, of Harston, near Grantham, for the best ox, under five years old, of any breed or weight, bred and fed in the county, without restriction as to feed. (Earl Howe's premium.)

5*l.* to Mr. Chamberlain, of Desford, for the best ox, under four years old, restricted to grass, hay, and vegetable food (breeding open to all counties.)

5*l.* to Mr. Chamberlain, for the best ox, under four years old, bred and fed in the county, restricted to grass, hay, and vegetable food.

5*l.* to Mr. Woollands, for the best fat cow, of any breed, age, or weight, without restrictions as to feed.

5*l.* to Mr. Chamberlain, for the best dairy cow that has produced a calf in 1837, and has been milked to Oct. 10 (breeding open to all counties.)

3*l.* to the Rev. Mr. Thorpe, of Burton Overy, for the best pair of incalved heifers, under three years old, bred in the county.

3*l.* to Mr. Chamberlain, for the best pair of heifers under two years old, bred in the county.

2*l.* to Mr. Beasley, for the next best ditto.

5*l.* to Mr. Wilmot, for the best bull, under two years old, bred in the county.

5*l.* to Mr. Carver, Ingersby, for the best bull, of any breed or age, that has served cows the previous season in the county, at not exceeding a guinea each.

5*l.* to Mr. Rudkin, Langham Lodge, Rutland, for the best pen of long-woolled fat wether sheep, without restriction as to feed. (Earl Howe's premium.)

4*l.* to Mr. Spencer, Odstone, for the best pen of long-woolled fat wether sheep, without restriction as to feed.

4*l.* to Mr. Spencer, for the best pen of long-woolled fat wethers, restricted to hay, grass, and vegetables.

4*l.* to Mr. Chamberlain, for the best four ewes, fed on grass only.

2*l.* to Mr. B. Simpkin, for the next best ditto.

4*l.* to Mr. Chamberlain, for the best four theaves, fed on grass only.

2*l.* to Mr. Simpkin, for the next best ditto.

3*l.* to Mr. Spencer, for the best pen of lambs, restricted to grass, hay, and green vegetables. (Mr. Chamberlain's were commended.)

2*l.* to Mr. Kendall, Hog Hall, near Burbage, for the best in-pigged or suckling sow.

2*l.* to Mr. Kendall, for the best boar.

2*l.* to Mr. Moore, Aston Flamville, for the best fat pig.

3*l.* to Mr. Kendall, for the best brood mare, adapted to the general purposes of agriculture. (Mr. Wilson's premium.)

2*l.* to Mr. Hassall, Packington, for the best foal. (Ditto.)

LORD WORSLEY'S INCLOSURE ACT.—Lord Worsley has entered two motions for the 12th of December,—the one for "a Bill to amend an Act of the 13th year of the reign of King George the 3rd for the better cultivation, improvement, and regulation of the common arable fields, wastes, and commons of pasture in this kingdom;" and the other for "a Bill to amend an Act passed in the 6th and 7th years of the reign of King William the 4th, for facilitating the inclosure of open and arable fields in England and Wales." We are informed that so important and beneficial has been his Lordship's act of last session in those districts where its practicability is most felt, that the noble lord has been beset with letters and suggestions upon the subject from Cornwall, Devon, and other parts of the kingdom.—*Shrewsbury Chronicle.*

THE COMPARATIVE VALUE OF THE CAUTERY AND THE SETON.

BY MR. W. HENDERSON, EDINBURGH.

(From the Veterinarian.)

Having attended with much interest to the discussions in your valuable journal on the comparative merits of the actual cautery and the seton, and being anxious to promote as far as in me lies the advancement of the science of veterinary surgery, I send you a few cases illustrative of the subject, together with some remarks which my own experience has suggested to me.

During the early period of my professional studies, I, in common with others, had to contend with those difficulties which formerly beset the student, in consequence of the want of a veterinary school, and the obstinate adherence to certain doctrines which derived all their claims to attention, not from being founded on extensive scientific and practical knowledge, but from their being espoused by individuals who had obtained a local reputation, in consequence of the length of time during which they had practised in a district. Any attempt at improvement was at once denounced as a rash and chimerical innovation, and reason was silenced by authority. Anxious, however, to obtain the necessary information to enable me to judge for myself, I entered for two years as pupil to the late Dr. Barclay, one of the most accomplished comparative anatomists of the day; and, having thus acquired some knowledge of structure and function, I proceeded to the London Veterinary College. In this establishment, while listening to the truly scientific lectures of the professor and sub-professor, and attending to their enlightened practice, I shook myself clear of those prejudices which in the early part of my career I had imbibed, one of which was the superiority of the cautery over the seton. I had been brought up with the notion that, in all cases, the cautery was superior to the seton; but the reasonings of Mr. Sewell, supported as they were by the most successful practice, shook my faith in the old doctrine, and forced me to give a fair trial to the new one. Of this determination I have had no reason to repent, and I can now point to a long train of successful results from the use of the seton, especially in spavins.

With a seton, you get below the skin, close to the ligamentous connexion of the bones of the hock, and as near to the seat of disease as you can go with common prudence or safety to the joint. With it, too, you can for a month or six weeks, or longer if necessary, keep up constant irritation, which in general produces a great deal of inflammation. In three or four days, suppuration occurs, after which the absorbents take the lead of the arteries; the supply of blood is partly cut off from the hock; and independently of the spavin becoming diminished in magnitude from the irritation produced, together with the secretion of pus, the chronic inflammation is subdued; and in four or five weeks the patient is going well, and with scarcely any blemish. Some have recommended leather setons, others ribbon or the common unbleached tape; but I find that the tape which answers best, is the strong, broad, rough, twilled tape, used by the boot-makers for making boot-loops. When the needle has fairly entered, it ought to be passed zigzag over the whole inner region of the hock, cutting up the whole cellular membrane right and left, connected with it, by which means more irritation is produced than if it were passed straightforward, and subsequently you have

a more abundant discharge of matter. Before tying the second seton knot, the assistant must seize the one, and while the operator holds fast the other, it is to be drawn twenty or thirty times as rapidly as possible up and down. The setons require to be dressed twice or thrice a-day, and the hocks to be well fomented, for if the setons are not kept clean, they will very soon slough; and even should there be the least carelessness on the part of the dresser, the hair will fall off in the course of the seton.

After the setons are withdrawn, and the sores healed up, it is my practice to rub into the seat of the spavin some camphorated mercurial ointment, which I find an excellent auxiliary. Last year I had about seventy-nine horses under treatment for spavins and splents below the knee, out of which number seventy became perfectly upright and useful, from setons. Some of them worked two weeks in the month, and got well. I have had horses sent me from far and near to get setoned for hock-joint lameness, after having been once or twice fired, and I have succeeded in getting them to go sound. I shall relate one or two cases.

1st.—The first was that belonging to a medical gentleman here, which he purchased on mere speculation from a dealer for 12*l.* or 13*l.* sterling. He was a dark grey, about 15 hands 3 high, eight years old, and dead lame on the off-hand leg, although he had been fired on both hocks in the rig and furrow system. He was in sad condition, being quite “a bag of bones” and fearfully tucked up. The doctor was informed that he was a first-rate fencer, and very fast, and, as he was leaving Edinburgh for some time, he left him under my care, to do the best for him. I setoned him on both hocks, and in one month he was going perfectly level, and had improved very much in his general health. He was then turned out to a straw-yard, in three months was taken up, and sold to an officer for 40*l.* or 45*l.* He hacked and hunted him, and he kept quite right.

2.—One of my employers purchased a splendid grey mare for 20*l.* sterling. She dragged the toe of the near hind foot, halted at a trot, and had been lame from a spavin for several months. The proprietor asking my opinion regarding her lameness, I told him I thought that, by inserting setons in her hocks, she would get all right, and he requested that the operation should be performed without further delay. In one month she was going quite correctly, no drag, no halt; and three months afterwards he refused fifty guineas for her. Eighteen months have now elapsed, the enlargement is perfectly gone, and she has never been up or down since.

3.—A dealer, who is in the habit of letting out hacks, sent a little grey horse to my establishment, dead lame in both hocks from spavins, in which condition he had been for some time. The poor thing was as lean as a scarecrow. He was a steady gig horse, and fast in harness, and at all times in great demand. The pain, however, which he suffered from the disease in his hocks, together with the work he had done, quite knocked him up. I ordered him into a loose box; put him on a cooling diet; his hocks were fomented regularly for ten days, and he got a dose of physic. He was then setoned in both hocks. In six weeks he was again put to his work; he came all right in his action, and has continued so for two years at hard work. Time and hard labour begin to tell on his fore legs, and he will require to be fired.

One great advantage the seton needle has over the firing-iron is, that you can effect cures, or relieve horses when lame, without producing any

eyesore, which in general detracts greatly from the value when the owner wishes to dispose of them.

I have found setons of great utility in thoroughpins and wind-galls, and prefer them to the actual cautery. In chronic inflammation of the larynx, they are of much service, and I have seen their application supersede repeated blistering. In inflammation of the eye they are often had recourse to, and they prove very efficacious in inflammation of the throat in dogs, and in foot lameness.

In cases of quittor there is no kind of treatment so successful as that of the seton, which, in my opinion, is far superior to the removal of the lateral cartilage by the sage leaf knife, sloughing the sinus with corrosive sublimate, or laying open the fistula by cutting the coronary ligament and cartilage, or cramming the sore with sulphate of zinc and tow. In quittor, I explore the extent and exact route of the sinus with the probe, after which I can calculate with the eye where to cause the seton-needle to make its exit, and at the particular part I remove the wall or crust, until such time as I arrive at the sensitive laminae. I then introduce the seton-needle at the coronet, and with two thrusts pass it through below the coronary ligament and lateral cartilage, and bring it out about the middle of the wall. In such a case, I charge my needle with four plies of the common tape, so that as the fistulous discharge ceases, and the cavity heals up, I withdraw one portion after the other, until they are all extracted. I find that after the foot has been poulticed for eight or ten days, and the seton shifted, the sore very readily heals with a weak solution of zinc.

By treating quittor in this manner, the disease is soon conquered, and there is no permanent blemish, as generally results from the old method, such as false quarter, or a malformation of foot. Neither the bed of the secreting vessels, nor the vessels themselves, are injured; the cartilage is left in a sound and healthy state, and the crust of the foot regulated in its growth and formation the same as ever. I recollect only one case in which I did not succeed with the seton. This was a bay cart-horse, belonging to Mr. Stevenson, farmer, which had been lame for three months. About three weeks after he was sent home, after the seton had been tried, the owner called on me, and said that there was still a sore, and that it was running a little. I ordered the horse into town, probed the foot carefully, and ascertained the existence of caries. He was thrown, and after making a circular incision with the scalpel, and dissecting away some diseased portions of the fistula, I introduced the forceps, and extracted a piece of carious bone, which was the colour of, and as light as a cinder. It had no connexion with the cartilage, as it came from the head of the small pastern bone. The wound healed up, but the horse continued lame for some time.

I may now state a case or two, shewing the efficacy of seton in quittor. A chesnut gelding the property of a nobleman, and called Young Carlton, which was purchased in England as a hunter for 250*l.*, happened to meet with an accident on the inner coronet of the near hind foot. Little attention was paid to it, as it put on no particular bad appearance until within two days before I was called to see him. After examining, however, the sore carefully with the probe, I found it extended two or three inches into the foot. I informed the groom that it was a very bad case, and that it would require to be setoned, which was agreed to. But as the coronet by this time was considerably enlarged, and painful to the touch, and the horse was of a very irritable disposition, the foot was poulticed for four or five days, and

a dose of medicine exhibited. On the sixth day after this he was setoned in the manner formerly described. The poultice was continued for some days, the seton shifted, and occasionally dressed with a weak solution of zinc. In five weeks after the insertion of the seton the wound was healed: he was perfectly sound, and was exercised with the other horses. For three years afterwards he was hunted, and was then sold for 150*l.* sterling to a dealer, who disposed of him to some gentleman in the North.

The next case was that of a black gelding, which Mr. Scott of the Waterloo Hotel, had purchased of a horse-dealer for a guinea. He was dead lame, had a bad quittor on the near hind foot, the coronet was very much enlarged, and the sore discharged a good deal of matter. He suffered very great pain, and was down in condition. He was only six years old, and well-shaped. Mr. Scott learned that he had been under the care of some farrier for two months, and had got no better. Being informed that setons generally cured such cases, he requested me to seton him. I examined the sinuses, and found them to run right and left, and the whole inner quarter of the foot was one mass of disease. Having removed the shoe, and prepared the foot, I had him cast, and inserted two setons, one commencing at the posterior part of the inner heel, and terminating at the inner angle of the heel, at its junction with the crust, the other running a little obliquely, passing in and out through the lamina and crust, four inches from the upper part of the coronet. In six weeks he was quite sound; and the sores having healed up, he was put to run as a leader in the mail, and so well did he do his work, that the owner informed me he would not take 25*l.* for him.

I could give many other instances, showing the good to be derived from the application of setons; but those which I have already stated will, I trust, convince your readers of their utility.

The value of the actual cautery is well known to every veterinary surgeon. In particular cases, as for example, curbs, ring-bones, ossification of the lateral cartilages, injury to the suspensory ligament and its divisions, old sprains, in some instances of grogginess, chronic swellings such as old callosities, weakness of the fore legs, debility of the ligamentous connexions of the large and small pastern bones, and caries of the bones, I have made some very good cures. I remember a case of a bay colt which had been lame for eighteen months from caries of two of the coffin bones, from the clips having hammered too close to the crust. There was a constant oozing of a serous fluid, of a dark colour, from the centre of the toe. A round shoe was applied to the foot with a portable clip. The cautery was had recourse to, which in three weeks produced exfoliation of the diseased portion of the bone, and it healed kindly after the application of tincture of myrrh and tow. The horse got perfectly round.

One of the canal horses belonging to Mr. Strachan had a carious jaw, from bruising the tables of his jaw-bones in rearing up with a running halter. The actual cautery was applied, and the diseased bone, after having been poulticed for about three weeks, sloughed, and the wound healed up kindly.

I believe that I state the general opinion of veterinarians when I say, that firing acts as a permanent bandage, as the skin is considerably thickened by its application, the amount of cellular membrane diminished, adhesions form here and there, the skin becomes more firmly warped to the bones and tendons, and consequently gives more strength and confidence to the animal when his physical powers are called into play. There is no operation which is

more creditable to the veterinary surgeon when properly done, that is, neatly and effectually. But when performed in a bungling manner, nothing tends more to lower his professional character in the eyes of his employer, as the blemish, every time he sees the horse, stares him in the face.

In firing, I generally throw the horse, particularly when it is required for the posterior extremities. By doing this, you can operate more neatly, and with greater confidence, and it is quite absurd to run the risk of getting your wrist sprained, your ankle dislocated, or your muscles softened, by being fool-hardy. For my own part, I never injured a horse by throwing him, but have, more than once, got myself injured by not having the horse on his back.

In conclusion, I beg to state, that whatever disputes may arise respecting the comparative merits of the seton and the cautery, I am convinced that, in the hands of the skilful and humane practitioner, they will never be abused. Both of them are valuable agents in the treatment of disease, and it is a waste of time to discuss generally their comparative merits, seeing that they depend on the individual case. Some practitioners run down the seton, others the cautery, and yet have never setoned or fired ten horses in their lives. The presumption and ignorance of such men should be shewn up, in order to guard the student from erroneous views, which may render his practice unfortunate, and destroy his prospects in life.

I should like my old fellow-student, Mr. H. Hallen, of the Inniskillen dragoons, to have such men under his command for three months. When that regiment was stationed here, I never saw a better mounted corps. The horses were all sound, and there was not the mark of an iron on one of them. I never saw a more efficient army veterinary surgeon; and, were he willing, I am sure he could contribute some valuable papers to your journal, as he has much useful information in his possession.

THE HIGHWAY ACT.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I wish to state one bad effect the highway act of the 5th and 6th William 4th, has had in the neighbourhood where I reside. Previously to that act coming into operation, the parish highway surveyor was empowered to keep in repair private carriage roads and drift ways set out by commissioners under enclosure acts, where the commissioners in their award as in the enclosed parishes about us, directed the repair by and out of the same funds as the public highways in the same parishes were liable to be repaired out of. The above act of 5th and 6th William 4th, took away this power, without pointing out a substitute. I will content myself with one instance of hardship—a drift way half a mile in length is set out for the use of A, B, C, D, E, F, G, and H; the first three are quite indifferent about the drift way being repaired, but as G and H live at the extreme end of it, and the repairs having been totally neglected, it is with difficulty that G and H can get to or from their farms with their carts loaded. If G and H do any repairs, all the others reap the benefit without contributing any thing. All our bye roads and drift ways are getting wretchedly out of repair, and in some instances impassable at this season of the year. It would be a great satisfaction to us to know if any attempt is likely to be made in parliament on a subject so very important to Agriculturists. A HUNTINGDONSHIRE FARMER.

Dec. 9, 1837.

ON SOME IMPERFECTIONS IN SCOTCH FARMING.

(FROM THE QUARTERLY JOURNAL OF AGRICULTURE.)

The farmers in Scotland have attained so much just celebrity for their management in rearing good crops in an inferior climate and soil, that some apology may be required from one who is not practically acquainted with agriculture, and yet attempts to point out where there appears still to be room for improvement. A mere theorist need not expect much attention; but it may, perhaps, be sufficient, on the present occasion, to plead that the experience derived from travels and visits to various parts of the country during harvest for many years, aided by the information and opinions of both proprietors and tenants, gives me a claim to submit the result of my observations, with a view to experiment or inquiry, especially as it is notorious that farmers as a body are not migratory, and the beneficial systems established in one district are often utterly unknown at a distance.

I have heard it remarked by an intelligent friend, that Scotch farmers are skilful in rearing good crops, but they do not seem to know what to do with them.

In this commendation I agree, with one reservation, that they have sometimes the defect of being later than necessary. Of course, my remarks are far from being universally or even generally applicable, as there are many exceptions, but those whom the cap fits are still numerous.

I trust I shall not be suspected of a wish to cast blame. My object is only that benefit may result from diffusion of information as to the better modes of proceeding in various places, and to show what practices are proved to be erroneous.

First, with regard to sowing, valuable time is often lost. Some years ago I was at Logiealmond about the 3d of April, when there was the finest possible spring weather. The air was most genial and balmy. Seeing a great tract of country almost entirely ploughed, only a fragment of each farm being unprepared, but still no symptoms of sowing, I inquired the reason. I was told that they were all waiting for one another. Why? Because whoever sowed first had his crop first ready for the sparrows or crows. I pointed out the disadvantages not only of letting slip such an opportunity when the ground was in perfect order and the season so favourable, but also of having such an immense extent of crop all ready for the sickle at once,—but to rouse the spirit of martyrdom was impossible, the risk of being sparrow-feeder for the rest was quite a bugbear. If all had sown the large proportion that was ready there was no danger of loss, but by their plan they each incurred more risk than they tried to avoid.

There is also some lingering prejudice about lucky and unlucky days,—or beginning at the end of a week to a business which cannot be finished, which is often an excuse for delay,—or being too soon for the midsummer rains, as if the climate of Scotland, instead of being precarious, was like that of India with periodical monsoons, and as if rain after the longest day were as certain as the shortening of the days. People do not deny that it is beneficial to have an early harvest, but forget that that is hardly consistent with a late spring. A place is called early because the sowing, and consequently the reaping, is early, though in some cases the soil may be the efficient cause of this advantage.

Secondly, With regard to cutting; the fear of shearing too soon has often the effect of making people put off till too late. If a crop is left standing for ten days or a fortnight after it is yellow, and the question is put, Why is it not reaped? various answers may be expected,—“It's no just ready;” “We'll yoke to it on Monday;” “It's no worth while now, for it's but a broken week;” “It's no lucky to tak anything on hand on a Friday, and it's but twa days after a', besides we hae na gotten hands enuch.” This may be from people whose own hands have been snug in their pockets, and who would not do so much as they could with what was ready. Though some of the crops are admitted to be ripe, they will not begin till they can have general harvest. Farmers seem to be a most sanguine class, notwithstanding almost annual experience to the contrary. It is too often erroneously said there is no hurry,—nothing disturbs their reliance on a continuance of good weather, upon which all their calculations seem founded. Here is the fundamental error. Their view is, What is the best mode of proceeding supposing fine weather to last? whereas I wish it rather to be considered, What should be done in case of bad weather coming? “There are occasions when the saving of a day may prove of vital importance to a farmer,” but there is a strange miscalculation, arising from inertness of disposition, which leads them to put off the evil day of exertion, as if it was to be saved by any avoidance but the loss of the crop.

As to wheat, it is an ascertained fact that it may be cut partly green, if the ear be but full it will ripen and harden in the stook faster than on the ground. If this be true of a standing crop, how much more must it hold in cases where it is laid? In some place in England it is cut very green, so that the name “Hertfordshire greens” is well known to signify a superior grain, and I have been told, that in Norfolk the practice was borrowed from Dunoon in Scotland, where the climate is not such as to render it prudent to neglect any expedient to avoid the possible superabundance of rain. I know I must now prepare for a unanimous exclamation, “Oh! but the climate of England is so superior to that of Scotland.” I do not pretend to deny that it is warmer, and in many places drier in summer and autumn, but the difference is not so great as between the frigid and torrid zone, or between the monsoon of India and the drought of the great desert. Have we never seen such weather as will admit of expeditious proceedings? Do we never hear of wet weather in England when it happens to be dry in Scotland? Does not the usual variety of the season sometimes produce the advantage of a fine succeeding a rainy tract of weather? In this very season some farmers in Scotland got their wheat housed, while in Norfolk, Sussex, and Kent, part of it was still kept exposed in the middle of September owing to successive rains. I do not pretend to get over the insuperable disadvantage of continual wet, and those who have not watched the progress of events will treat with contempt, as uncalled for, an exhortation not to lose that gift of Providence, the opportunity of reaping in fine weather. Nevertheless, any person who has experience must have seen that the farmer, and, consequently, the scorner, is in fault.

Predestination even has something to do with it. They do not consider that, according to their own phrase, it is a tempting of Providence if they do not make the best use of a season which might

have been long enough good, if diligent use had been made of it; and yet probably, if the weather failed, not only would the season be blamed, but He who made the seasons. But the great advantage is, that it gives a *choice of weather*. I do not advise cutting any crop either green or yellow, if the weather be bad, but only that it should be cut as soon as possible if the weather be good. In this way it would often happen that the harvest might be a fortnight or three weeks earlier in than it is; and if only one pursued the plan, he might have his crop housed in safety when his neighbours were tardily commencing. Mr. Birkett, a great corn-factor in London, who visits Scotland to make large purchases of grain, states as the chief cause of the inferior price which Scotch wheat brings in the English market, that it is often discoloured from being so long exposed to the weather after it is ripe and after it is cut; and the truth of his remark was accidentally tested one year in East Lothian, where a farmer cut one-half of a field of wheat a fortnight sooner than usual, when all his neighbours pointed at him as “demented,” and that produce fetched a higher price than the other half, or than any wheat in the county that season, because it was a fair sample.

As to barley I have little to say, as it must be ripe before it is expedient to cut it. But when, after it is yellow, it fades or becomes white or red, when it is laid, and the clover is growing through and over it, and when the pickles are falling from the stalk, all of which I have seen, such neglect must bring loss, and they are “cheap of it.” Unnecessary delay in cutting is particularly injurious, when it is the system to sow clover with it, as the longer the grass is, the longer it takes to dry for carrying.

As to oats there is great room for amendment. In East Lothian I once happened to go round a large field, apparently quite yellow, and on asking why it was not cut in such fine weather, I was told to observe that, at the bottom of the furrow, there was still some rather greenish, a mere *soupeçon*—perhaps one stalk in a hundred. I said I should not like to risk the loss of the ninety-nine for the chance of adding the hundredth, and worst; and that very night there was a thunder-storm, which impressed upon me, and probably upon the lady and her grievance, that their's is not a profitable way of reckoning. If the crop ripens unequally, and a large majority of the stalks, or of the pickles, be ripe, it becomes a nice calculation what should be done. If it be laid, it must be destructive to leave it for the rain to rot it; and if it be standing there is great risk of shaking. Whenever it becomes yellow below the ear, it is advisable to cut it, as it will derive no more nourishment from the ground, and the ear, if full, will ripen and harden quicker in the stook than if connected with the moisture of the soil. That oats may be cut sooner than is the general practice, is evident from a singular instance. The farmer of Stenhouse Moor, where the Falkirk Trysts are held, is enabled to crop half the ground alternately every year, because only the last fair requires the whole extent. One year when the time came near, he was in despair; the oats were still so backward, and even meditated leaving them for the cattle to trample under foot. But he thought better of it,—cut his green grain, and afterwards acknowledged he had never had a crop that mealed so well. Lest the ear should shrink, they shrink from cutting till they lose it altogether. One might suppose they even waited for the ears to be fuller than they can hold. The

top pickles are the largest, and the first ready, and by waiting for the rest, they are frequently lost, owing to their feeble adhesion to the parent stem. The fable of the dog with the piece of meat in its mouth, should not be forgotten—nor the bird in the hand—when one considers that after the crops have gone through the worst the winds and rain can do, they have to sustain the rough handling of the reapers with the sickle or scythe, and the harpooning, and the tossing of the pitchfork; so that the field looks afterwards as if it had been sown—it is surprising that so much is ultimately produced. If the crop be left till the straw whitens and becomes brittle, the liability to dismemberment from the weather, as well as during all this process, increases, and the straw itself loses weight and value, and is less nutritious, being “*fashionless*.” These are the consequences of giving up the driest and warmest weather. The last point is the carrying. How surprising and erroneous many farmers in Scotland must consider an English report which mentions “the cart almost following the sickle.” In Scotland the excessive desire to get the crop dry, too often leads to its being soaked till it sprouts.

A singular instance is recorded of activity in Kincardineshire last year. After being long baffled with bad weather, till the season became alarmingly late, there was a prospect of more settled weather on Sunday the 23rd of October. It was accordingly determined to take advantage of the moonlight, and set to work that night, a most unusual proceeding in Scotland. They never relaxed for three nights and three days till all was secured, and the day after began that storm of snow, which with little intermission continued till late in the spring, and ruined the crops in other places, where it was taken for granted that the re-action in the weather would be of sufficient continuance to serve for more leisurely proceedings.

It is worthy of remark, that in a parish in Ross-shire, the sacrament one year was fixed during harvest. As usual on such occasions, Thursday is kept as a fast day when nothing is done; and on Saturday afternoon and Monday morning there is also service, all this time the weather was fine. On Monday afternoon every thing was to begin, but unfortunately on Tuesday came on a tract of bad weather, which lasted six weeks to the infinite damage of the crop. This injudicious and unwarrantable appointment was thus most prejudicial. It must be remembered that although no operations can be carried on upon Sunday, yet if a crop be cut it is a day gained, for the most rigid Presbyterian will admit, that that day of rest may be highly useful in drying it, and preparing it for being carried.

In Morayshire, where the climate used to be dry and early, so much reliance is placed on the weather being favourable that there is great dilatoriness. One season I left a great deal of the crop out in that province, and when I got into the Garioch district of Aberdeenshire, beyond Huntly, which the Moravians will admit is much less favoured, I found that superior diligence had almost cleared the country. In the present season Conachar, a farmer near Pitlochrie, in Atholl, took the lead of his neighbours many days, and was weeks before some of them.

In West Lothian, some years ago, the foreman on a large farm begged hard that the stooks might be stacked, but his master wanted them to be drier. The weather changed soon after, and the crop was drenched till the yellow relapsed, some into green and some into black.

When an opportunity is once lost, and the weather, after being long fine, becomes unsettled, the danger is in proportion to the duration of the monsoon. If these observations be admitted to be at least partly well founded, I shall be satisfied if they lead to experiments on a small scale, by which there can be no loss. Thus, I anticipate that at least the expense, anxiety, injury, and reproach of the harvest being prolonged into the winter months will cease, and the character of our farmers, grain, and climate be ameliorated.

I shall only add a few words as to hay-making, in which we are woefully behind. On the south confines of Perthshire, seeing a field that had been cut some time, and was quite ruined with wet, I asked how it had happened, and was told by a neighbour that he, whose ground was 200 feet higher, had had his in stack several weeks. The fear of damp causing it to heat, leads to an exposure of such incredible duration, that perhaps no season of drought in Scotland has ever yet been long enough for it to escape the destructive alternations of wetting and drying till the hay is worn out. The system of waiting in a dry season till it gets a little rain to produce a final growth, generally ends by landing it in a long series of bad weather; and the plan of changing the small heaps into large ricks in the field, by which it is held to be safe, has the effect of unnecessarily increasing the labour, adding to the delay, and withering a new and larger surface. Straw well got in would be as nourishing as hay that has had six weeks of seasoning. If the seed be the object, they must be content with “*windlestraes*” instead of hay; but if the hay be what is wanted, the late system is ruinous. It exhausts the soil, loses the longest days and warmest weather, renders the crop less weighty and nourishing, makes it liable to be discoloured and rotted by wet, occasions more trouble and expense in winning it, makes the second crop much later and lighter, and sacrifices the advantage of the rain that destroyed its predecessor.

I trust I have now made out that work may be saved with profit instead of loss.

FINEST AND CHEAPEST HOME MADE MANURE.—Mr. George Kimberley, of Egham, has recently communicated the details of a new and apparently excellent invention of home-made manure. The discovery of Mr. Kimberley is a most important one, as every farmer will be enabled to make it. The following are the particulars of Mr. K.'s letter:—I am now using a liquid, which being mixed with mould forms the *finest as well as the most economical manure*. This liquid when sprinkled on cut straw or weeds of any kind, causes a strong fermentation and decomposition, and in a fortnight becomes a manure equal to our best horse dung. Where farms lie at a distance from a town or large thoroughfare, this new manure will not cost more than what is now paid for the carriage of horse dung. The liquid alluded to may be made by every one on his own premises, indeed in the very field in which he wishes to use it; and I have no doubt that when the effects of this discovery are properly understood and appreciated, it will cause an immense increase in the produce of these kingdoms, and a great change in the practice of agriculture. I will not add more at present than to observe, that in a very few weeks I shall be happy to show any gentlemen the *new manure* thus noticed, made from the coarsest rubbish that infest our hedges, as well as the mould prepared which I shall use for my wheat crop.”

WEST SUFFOLK AGRICULTURAL SOCIETY.

On Tuesday, Dec. 5, being the anniversary of the above society, the show of stock took place in the cattle market, at Bury. There were about 60 gentlemen present.

At four o'clock between 50 and 60 gentlemen sat down to an excellent dinner at the Angel Inn, J. H. Powell, Esq., in the chair, supported by T. J. Ireland, Esq., Col. Ray, the Rev. D. Gwilt, Rev. A. Colville, Rev. J. Wastell, Messrs. Amys, Stedman, Rodwell, Shillito, Muskett, Browne of Denver, &c., &c.

The first toast given was "The Queen," with three times three. This was followed by "The Lord Lieutenant of the County, President of the Society," "The Duke of Norfolk," "The Marquis of Bristol, and the Vice-presidents," and "The Members for the County." (*Cheers.*)

The CHAIRMAN then said, he would approach the general business of the day by giving, "Success to the West Suffolk Agricultural Society." (*Cheers.*)

The CHAIRMAN observed, that previously to the secretary's reading the arrangements which the society completed relative to the ploughing matches, the list of prizes, &c., he begged leave to propose the healths of "The Successful Exhibitors of Stock," and in doing so, he must congratulate the society on the very excellent exhibition shewn in the market that day, and on the improvement both in quantity and quality on the display of last year. (*Hear.*) He begged to propose "The healths of Messrs. Shillito, Nunn, Roper, Adams, and the rest of those gentlemen who had been successful candidates for the prizes of the society." (*Cheers.*)

The SECRETARY (Mr. Beeton) then read the list of prizes.

To the owner of the best pen of five fat South-down shearling wethers (Mr. Shillito, Barrow) a silver cup, value.....	£. 3
To the owner of the best pen of five fat shearling wethers of any other breed (Mr. W. Adams, Barton) ditto ditto.....	3
To the owner of the best fat ox, a Highland Scot (Mr. F. Nunn, Bury) ditto.....	5
To the owner of the second-best fat ox (Mr. Roper, Lackford) ditto.....	3
To the owner of the best fat hog (Col. Rushbrooke, M. P.).....	2
To the owner of the second-best fat hog (Mr. Shillito).....	1

The new arrangement for the ploughing matches were then read, and the names of the intended judges.

The CHAIRMAN—As it is the expectation, as well as wish, that instruction should be blended with festivity on this occasion, I hope that any gentleman present, who can afford us information with respect to farming operations, or the breed of stock, will favour the company with it.

MR. SHILLITO (of Barrow), as one of the successful exhibitors of stock, begged to return the meeting many thanks for the compliment paid him in drinking his health. As the Chairman had said that it was the wish of the meeting to receive any information respecting the breed of stock possessed by any gentleman, he should be happy to give his experience on the course he had always followed in rearing and fattening, and found the best. If, therefore, he could throw any light upon the subject he should feel highly gratified. (*Hear.*) The first step of importance, in his opinion, was to obtain a good sort of animal, an animal that would carry quality as well as quantity, meat as well as size. The next step was its

proper feeding, and to this last point he had paid much attention. One thing to which especial notice should be paid, was the quantity of food given to animals. It was a maxim with some breeders to give them food in large quantities, to gorge them. That, however, was decidedly wrong. On the contrary, be careful not to furnish them with too much, or, in plain terms, more than the animal could thrive as well as fat upon. (*Hear.*) Again, it was necessary that the animal should have a variety of food, for he had seen that, if breeders went on feeding with one kind, the stomach got cloyed. As soon as he saw that taking place in his own beasts, he immediately changed the food. The proper mode of feeding was to court the healthy appetite by a proper change of wholesome food. Whenever he walked through his yard and found an animal not taking sustenance in proper quantities, he had him instantly removed from the rest, until the appetite was restored. With regard to the food most proper to use, his opinion was, that if oil-cake could be obtained pure it was the best, or at any rate, as good fattening as could be used. But unfortunately pure oil-cake was seldom to be obtained. (*Hear.*) It was true there was an abundant supply of something called oil-cake to be purchased, but the fact was, that its component parts were not known. (*Hear, hear.*) The agriculturist obtained some hard substance made into a kind of mortar—(*a laugh*)—which was called oil-cake, but it was as much like anything else, and had no property in common with it. If, therefore, the farmer was a friend to himself, he thought the preferable mode of fattening was to feed the animal with the good and clean produce of his own farms. (*Hear.*) When he found that in Bury market, he could purchase beans at 15s. and barley at 13s.—(*a voice—aye, for less than that.*)—he would say decidedly, feed with farm produce. His mind was quite made up, that if he were bound to feed a beast for a prize, he would stick to corn in preference to cake, for independently of the cheapness of the one, they did not know the composition of the other; and, besides the advantage of knowing what they were consuming, feeding stock with corn was also beneficial to the farmer, as it was creating a market for his own produce. (*Hear.*) His observations with regard to the feeding of an animal, he trusted had been explicit. Another matter to which the attention of the breeder should be directed, was the quantity of water given to a beast. Every animal should be allowed to drink at least two or three times each day, if it had not water always at command. As he had nothing to conceal with regard to his mode of fattening, he should be glad to give his neighbours more particular information with respect to the treatment of his own animals, if they required it, and should feel it a pleasure to impart any thing they might wish to know, personally if they would pay him and his farm a visit. (*Hear.*) There was another subject on which he would offer a few observations, if he were not intruding on the time of the meeting. (*Go on.*) It was with respect to manures, and the mode of saving them. The modern agriculturists, he thought, did not pay sufficient attention to the manures made in the fold-yard. Sometimes he had been asked how his fattening animals paid him for the trouble of producing them. This, however, could not be answered by a mere reference to the sum he obtained for them by sale, but there was a variety of circumstances to be considered before the question could be answered properly. For instance—the quantity of manure obtained from them was one—not wet straw but good manure. There was another thing which required attention. When the manure was carried from the

fold-yard into the fields, it was suffered to lie in a huge heap for a long time—so long, indeed, that before it was spread on the land its qualities had perished. He was aware that it required a certain time for fermentation to take place, but it was frequently left until such fermentation had passed off. It was his practice as soon as the heaps were raised on the field to throw a quantity of mould upon it, and thus prevent evaporation taking place too rapidly. Proper attention ought also to be paid to the draining of the fold-yard. The produce saved was now in ten instances out of twelve lost. It would be advisable when the yard had a fall, to establish conveniences for catching it, and then convey it to the lands. In France and the Netherlands they were extremely careful of preserving this liquid manure, and the peasants might be seen carrying it out to the fields and giving each plant a proper proportion. In his opinion the manufacture of good manure was a duty which every farmer not only owed to himself but also to his landlord. (*Hear.*) There were many gentlemen in the room doubtless more enlightened than himself in farming matters, but he was sure they would all agree with him in saying that there was not sufficient attention paid to apportioning the proper quantities of manure on particular lands. On some of the best land some farmers frequently placed a heavy layer of manure, and which had the effect of throwing down the crop—or rather of repressing it—than increasing it. (*Hear.*) There was he must say a great want of attention with regard to this matter, and he trusted that agriculturists would make the proportion of manuring on different lands a deeper study than they had hitherto done. (*Applause.*)

The SECRETARY then informed the meeting that the prizes of the day would not be distributed until the next autumnal meeting.

Mr. SHILLITO rose again and observed, that he had forgotten to say that in his opinion great injury had arisen to flocks by allowing the shepherds to overfeed the sheep, on their going first upon a piece of turnips. He had seen the animals quite blown by such a practice, and he was confident, that in the case of ewes with lamb, as it produced extreme pain, it must tend very much to render their offspring liable to accident.

“The Unsuccessful Candidates.”

Mr. GAYFORD (Rymer) said, that he should have been very glad to have returned his thanks as a successful candidate. (*A laugh.*) He was extremely glad to hear of the improvement of the society, and certainly, it was better to have been an unsuccessful candidate this year, than a successful candidate last year,—speaking as he did with reference to the quality and quantity of the stock exhibited at each period. (*Hear.*) He approved very much of the observations made by Mr. Shillito, both with reference to the feeding of stock, and also the treatment of manures. Mr. Gayford then said that being ambitious of being a good farmer, he had recently taken a tour in the North of England, for the purpose of seeing the Scotch mode of agriculture, and he must in truth say that the Scotch farmers were considerably before those of Suffolk. (*Hear.*) Nor were they superior only as regarded their mode of tillage, but with respect to everything relating to agriculture. As regarded their societies, for instance, not only did they give prizes to successful exhibitors of animals, but for inventions also, and they possessed museums containing all kinds of implements, and models of implements and machines. They preserved the different varieties of grain, and they possessed specimens of the flower,

the ripened ear—the straw of all of them, and were acquainted with the kind of soils most suitable for the successful productions of each variety. (*Hear, hear.*) They even went so far as to collect specimens of all the soils themselves—not only the upper but the subsoils. In order to grow corn in a profitable manner for the farmer, it was necessary that the ground in which it was sown should contain four gases. (*Hear.*) Now he (Mr. Gayford) knew nothing of these gases, nor was he acquainted where he could obtain intelligence respecting them, but the Scotch farmers employed a chemist, who understood the matter, and by sending a specimen of the soil about to be sown to him, he would at a moderate charge give the requisite information with regard to the existence of these gases in the earth. With the English farmer however, nothing of this kind was done—he went and scattered the seed upon the land, and whether the soil was fit to receive it or not, was as it happened—it was all guess work. (*A laugh.*) He however, should not be satisfied, until he found the societies of this part of the kingdom following the example of the Scotch, nor until their rich neighbours obtained, through the agricultural chemist, a proper analysis of the land. If their landlords did this for them, the farmer would be able to give them better rents. (*Hear.*) He last year travelled from London, in the same coach with Mr. Harvey a respectable tradesman of Bury; who did not know who he (Mr. Gayford) was, and so he asked him how trade was? Never better, was the reply. How was that? Why, because agriculture was in a prosperous condition. (*Hear.*) And so it was—for wheat had risen from 17s. to 30s. a bag. He was glad to see so many Bury tradesmen around him. Mr. Harvey had said that Bury was dependent entirely on agriculture for its prosperity, and doubtless, those who were there that day knew that as well as Mr. Harvey. (*Hear, hear.*)

“The Judges of Stock.”

Mr. G. STEADMAN (Rickenhall) returned thanks. He was glad to find that the stock exhibited for prizes that day, was not only greater in number, but incalculably more valuable than the stock of last year. (*Hear.*) The extra stock was also of great value. If he particularized, he was bound to speak in the highest terms of the pen of Southdown sheep, shewn by his Grace the Duke of Norfolk, and next to his Grace, he must mention the beautiful Alderney cows exhibited by Mr. Muskett. They were the most beautiful animals he ever saw of the breed. There were also many other animals at the show which were worthy of notice. He certainly did not expect to see so good an exhibition as he had seen that morning, and he could assure the meeting, that it was a great gratification to him, as doubtless it was to every other member of the association present. (*Hear.*)

“The Members for the Borough.” (*Applause.*)

Mr. AMOS said that both himself and fellow Judges experienced much difficulty in arriving at a decision upon the merits of the different animals, where all were so excellent. (*Hear.*) If it could be carried into practice, he wished that the society should award a prize at their next meeting, for each breed of animal—such as a prize for the best Devon, or the best short-horn, as he found that selecting the best animal from among many varieties was a difficult task. The circumstance of a prize being given for the best specimen of a distinct breed, would also bring a number of exhibitors for each prize. (*Hear.*) Mr. Amos stated some objections which he held to Mr. Shillito's observations upon manures. He also observed, with reference to the feeding of cattle, that he had found the use of salt a great benefit. If the

salt was laid in lumps in the field, and the animal allowed to lick it the practice would be found a peculiar benefit. It would of course be necessary that it should be kept from milch animals. Such a plan was very different to salting the hay upon which beasts were fed, and had a very different effect. He had seen a quantity of bullocks which had been fed on salted hay, contrasted with others that had been suffered to lick the lumps, in the mode he had spoken of, and the difference was very apparent. Those animals which had been fed upon the salted provender were rough and loose in the skin, but those which had taken the salt from the pastures, were smooth and fresh in their coat.

"Colonel Ray, Hon. Secretary to the Association."
(Much applause.)

Colonel RAY said, that he felt highly flattered by the kind manner in which his health had been drunk. The post of Hon. Secretary, however, which he held was unattended with any kind of trouble to him, and therefore he must say he did not deserve the notice which had been given to his name. He had a most excellent assistant in the person of Mr. Beeton, the Secretary, who took all the trouble off his hands, and of the ability possessed by that gentleman for his office, they had ample demonstration in the arrangements of that day. (*Hear.*) He would only say, that it would give him great pleasure to be serviceable at any time to the society.

The CHAIRMAN.—He was sure that the company had as much at heart the well-being of the sister associations, as their own, and he should therefore propose "Prosperity to the Saffron Walden Agricultural Association, associating with that toast the name of Mr. Gwilt."

Mr. GWILT (Icklingham) returned thanks, and observed that the Saffron Walden Society was extremely flourishing. He bore testimony relative to the great care taken on the Continent of the liquid manure gathered from the folds, and particularly in the low countries. All the beasts in that part of the world were fed in stalls, each stall having a reservoir for the accumulation of the liquid manure, of which mention had been made. He was happy in being able to communicate that Captain Rudkin's apparatus had been found fully competent to perform the results which its talented inventor had promised for it (*hear*), and the high character given to its powers by Dr. Birkbeck were fully realized. A meeting would be shortly called in the metropolis to report upon the invention. The distillers—the honest distillers he meant—were delighted with the success of the experiment, for the instrument would enable them to compete with that system of illicit distillation which so largely prevailed. As Captain Rudkin's apparatus would put a large sum of money into the hands of the Chancellor of the Exchequer, he hoped that that Minister would feel himself able, and be inclined, to do something in return for the good of the agriculturists. (*Hear.*) He trusted also that the poor man, who spent his days in the occupation of cultivating barley, would now have it in his power to use a little of the malt prepared from it. (*Hear.*)

Colonel RAY gave "the health of the Chairman, J. H. Powell, Esq."

The CHAIRMAN said, that he really felt highly flattered by the attention which had been paid to his name. He wished that his small knowledge of agriculture could have enabled him to impart some information respecting its details to the meeting. Unfortunately, however, his small experience prevented him entering upon the subject. Nevertheless, he

could assure the meeting he had the success of agriculture most sincerely at heart, and all he possessed was derived from land. In conclusion, he would propose the health of the Clergy of the Diocese, and particularly those clergymen who had favoured the meeting with their company.

The Rev. A. A. COLVILLE returned thanks, and recommended the adoption of a plan which he thought would extensively carry out the objects of the Society. He conceived that if a room were hired, and the nucleus of an agricultural museum formed, that it would tend to bring scientific enquiry to the aid of agriculture. Lectures might also be delivered, and a medium of communication between the other parts of the county kept up, which would tend much to the benefit of all.

"The East Suffolk Agricultural Association."

Mr. AMOS returned thanks.

"The South Suffolk Association."

"Mr. Beeton, our worthy Secretary."

Mr. BEETON returned thanks, and observed that he felt himself much indebted for the handsome manner in which Colonel Ray had spoken of his efforts. Speaking of the Society, he remarked that he thought the mode that day introduced, of selling the stock by auction, would have the effect of bringing a large quantity to the exhibition next year, as the sale had been extremely successful, and very high prices had been obtained. One instance he would quote in support of his views. A gentleman, who had brought stock, was asked by him (the secretary) to put his animal up at auction with the others intended to be sold by the owners. He replied, "If I do, I shall buy it in." The animal was, however, put up to the hammer, but although the gentleman bid price after price, it was yet knocked down to another person, so well was the animal appreciated. (*A laugh.*) Mr. Beeton then stated the good effect which the prizes of the society to labourers had produced, and quoted an instance of a poor man living in the neighbourhood (Eldred, of Whepstead) who was so concerned for the loss of the tablet which detailed his having obtained a prize from the association, and which was burnt in a fire which broke out in his cottage, that nothing could exceed his anxiety to obtain another.

"The West Norfolk Association."

Mr. BROWN returned thanks.

"The Mayor and Town Council of Bury, and many thanks to them for the use of the cattle market."

Mr. J. RIDLEY returned thanks, and regretted his inability adequately to do so. He assured every one present, that it was the wish and endeavour of the Council to do all they could do for the benefit and accommodation of the agricultural interest. Great improvement had been made in the cattle market, which had proved of advantage to the town and neighbourhood. There was now a proposition to enlarge the market, and he trusted that it would soon be carried into effect, and render it the best and most convenient place of the kind in this part of the kingdom, for the stand and sale of cattle.

A conversation then ensued between Mr. Muskett, Mr. Steadman, Mr. Denton, (Steward to Col. Rushbroke) Mr. James Lee, Mr. Gwilt, Mr. Gayford, and others, upon the breed of cattle, the cutting of turnips, the nature of Italian grass as feed in winter and spring, which extended to a considerable length. Several other toasts were also drank previously to the separation of the meeting.

ARUNDEL.

The annual Christmas Fat Stock Show at Arundel took place on Tuesday, Dec. 5. There was a pretty good attendance of buyers at the market. The cattle exhibited were fully equal to any previously shown here. After the show a party of 200 agriculturists and others sat down to an excellent dinner provided by Mr. Flood at the Norfolk Hotel,—the Earl of Surrey, M.P. in the chair, supported by his Grace the Duke of Richmond, Lord Fitzalan, M.P., Sir R. Hunter, Rev. Messrs. Greene, Nourse, Perry, W. Gratwicke, E. Gibbon, T. Evans, Esq., &c. The usual loyal toasts having been given, the Chairman announced the awards of prizes, as follows:—

Plate of the value of 10*l.* to the owner of the best fat ox, without restriction as to feeding, the gift of his Grace the Duke of Norfolk, awarded to the Duke; but he not taking the prize, it was given to Mr. John Drewitt of Peppering.

Plate of the value of 10*l.* to the owner of the best fat ox, fed on succulent food only, the gift of the Corporation of the Borough of Arundel, to Mr. W. Newland of Tortington.

Plate of the value of 10*l.* to the owner of the best fat steer under five years old, without restriction as to feeding, the gift of Lord Fitzalan, M.P., to Mr. John West Heasman of Angmering.

Plate of the value of 10*l.* to the owner of the best fat Sussex steer under five years old, fed on succulent food only, the gift of the Earl of Surrey, to Mr. Thomas Chatfield of Greatham.

Plate of the value of 7*l.* to the owner of the best fat Welch runt, without restriction as to feeding, to Mr. John Neald of Coldwaltham.

Plate of the value of 5*l.* to the owner of the best fat Welch runt, without restriction as to feeding, to Mr. Thomas, Duke of Leominster.

Plate of the value of 5*l.* to the owner of the best fat Scotch runt, without restriction as to feeding, to Mr. John Harwood of Amberly Castle.

Plate of the value of 7*l.* to the owner of the best fat cow, five years old or upwards, bred in Sussex, without restriction as to feeding, the gift of the tradesmen of Arundel, to Mr. John Cole Tompkins (*Loud Cheers.*)

Plate of the value of 7*l.* to the owner of the best fat open heifer, under five years old, bred in Sussex, without restriction as to feeding, the gift of the tradesmen of Arundel, awarded to Mr. Harwood, but having received one prize, he was restricted from receiving a second, and therefore the plate was given to no one.

Plate of the value of 5*l.* to the owner of the best fat open heifer, under five years old, bred in Sussex, fed on succulent food only, the gift of the tradesmen of Arundel, to Mr. G. Penfold of Wiggenbolt.

Plate of the value of 5*l.* to the owner of the best pen of five full-mouthed or six-tooth fat South Down wether sheep, bred in Sussex, without restriction as to feeding, the gift of the tradesmen of Arundel, to Mr. William Newland of Tortington.

[Mr. Gains explained that Mr. Hawkins was certainly entitled to the cup; but in consequence of some informality, he could not receive it. The next best pen was the Duke of Richmond's; but as his Grace did not receive prizes, the premium came to Mr. Newland.]

Plate of the value of 5*l.* to the owner of the best pen of five four-tooth fat wether sheep, of any description, fed on succulent food only, the gift of the tradesmen of Arundel, to Miss Bushby of Goring.

Plate of the value of 5*l.* to the owner of the best pen of five two-tooth fat South Down wether sheep,

without restriction as to feeding, to Mr. John Duke of Courtwick.

Plate of the value of 5*l.* to the owner of the best pen of five fat ewes of any description, each having brought up a lamb since December 1, 1836, without restriction as to feeding, to Mr. Upton of Binstead.

Plate of the value of 5*l.* to the owner of the best pen of five fat South Down ewes, each having brought up a lamb since December 1, 1836, without restriction as to feeding, to Mr. Thomas Duke of Leominster.

After the declaration of the awards several other toasts were given, among which were the health of the Duke of Norfolk, the health of the Duke of Richmond, the Magistrates of Sussex, &c.

The Duke of Richmond, in returning thanks, said he could assure them that he felt it to be a duty which he owed not only to them and to the county, but to the empire at large, to give his most earnest, but humble support to associations like this. The agricultural associations had conferred great benefit upon society at large; it was only by bringing their own stock to the show field and comparing them with the stock of others that they were enabled to know the demerits of their own. From these associations had emanated those which had been instituted for promoting the welfare of the labourers, "those institutions," said his grace, "which show to the labouring classes that we are deeply sensible of their exertions, and that we are anxious and eager to reward their meritorious conduct. But, gentlemen, these associations, in my humble opinion, have been of great service in another point of view; they have given facilities for the landowners and land occupiers meeting together and cementing that bond of mutual friendship, goodwill, and esteem, which cannot be disunited without injury to the comfort, welfare, and prosperity of both the landlord and tenant."

The Stewards on this occasion were Messrs. Halsted of Walberton, G. Boniface of Ford, and C. New of Arundel; and the Judges, Messrs. Gain of Portsea, Harmer of Brighton, and Mundy of Petersfield.

Mr. G. Turner, butcher, of Arundel, bought Mr. Newland's prize bullock; and Mr. W. Daws of Arundel, purchased Mr. Tomkins' five year old cow.

CHICHESTER.

The annual Christmas Show of fat stock took place on Wednesday, December 6. After the show about 200 persons sat down to dinner at the Swan Inn; the Duke of Richmond in the chair. The cloth having been removed and the usual loyal toasts proposed, the Chairman declared the award of the premiums as follow:—

CLASS 1.—OXEN OR STEERS—A premium of 10*l.* to the feeder of the best ox or steer of any breed, that shall not have had any cake, corn, meal, seeds, distillery wash, or grains, before the 1st August, 1837, the gift of his Grace the Duke of Richmond.—Mr. Ayling, Liss, near Petersfield.

2.—OXEN OR STEERS—A premium of 10*l.* to the feeder of the best fat ox or steer of any breed, fed on succulent food only, the gift of the Earl of Surrey.—Mr. Ring, near Petersfield.

3.—RUNTS—A premium of 10*l.* to the feeder of the best fat runt fed on succulent food only, the gift of Lord G. Lennox.—Mr. John Neale.

4.—STEERS—A premium of 7*l.* to the feeder of the best fat steer under four years of age, fed on suc-

culent food only, the gift of Lord A. Lennox.—Mr. John Ayling.

Welsh runts are not qualified to be shown in Classes No. 1, 2, and 4.

5.—A FATTENED COWS OR HEIFERS—A premium of 8*l.* to the feeder of the best fat cow or heifer (Free-marting and spayed heifers are not qualified) that shall not have had any corn, cake, meal, seeds, distillery wash, or grains, before the 1st August, 1837, the gift of the inkeepers.—Same, but having received another prize, not eligible: and in consequence awarded to Mr. William Boxall, of Stopham, near Pulborough.

6.—A premium of 10*l.* to the feeder of the best pen of three full-mouth or six-tooth fat Southdown wether sheep, without restrictions as to feeding, the gift of J. A. Smith, Esq.—Mr. Wm. Upton.

7.—A premium of 8*l.* to the feeder of the best pen of three four-tooth fat Southdown wether sheep, that shall not have had any cake, corn, meal or seeds, before the 1st August, 1837, the gift of the tradesmen of Chichester.—Mr. H. Upton, of Oving.

8.—A premium of 8*l.* to the feeder of the best pen of three two-tooth fat Southdown wether sheep, that shall not have had any cake, corn, meal or seeds, before the 1st of August, 1837, the gift of the tradesmen of Chichester.—Mr. Walter Calhoun.

9.—A premium of 8*l.* to the feeder of the best pen of three fat Southdown ewes, each having brought up a lamb since the 1st December, 1836, without restrictions as to feeding, the gift of the tradesmen of Chichester.—Mr. Walter Calhoun.

10.—A premium of 8*l.* to the feeder of the best pen of three fat ewes of any description, each having brought up a lamb since 1st December, 1836, without restrictions as to feeding, the gift of the tradesmen of Chichester.—Mr. A. Upton.

11.—A premium of 10*l.* to the breeder of the best pen of ten Southdown six-tooth ewes which brought up a lamb in 1837, the quality of the wool, and the completeness of the animals to be taken into consideration. The ewes are to remain in the flock and to be folded till within one month of the show.—Mr. Walter Calhoun.

12.—A premium of 10*l.* to the breeder of the best pen of ten Southdown four-tooth ewes, which brought up a lamb in 1837, the quality of the wool, and the completeness of the animals to be taken into consideration. The ewes are to remain in the flock and to be folded till within one month of the show.—Same.

13.—A premium of 10*l.* to the breeder of the best pen of ten Southdown 2-toothed ewes, the quality of the wool, and the completeness of the animals to be taken into consideration. The ewes are to remain in the flock, and to be folded till within one month of the show.—Mr. Putland.

14.—A premium of 5*l.* to the breeder of the best 6-tooth Southdown ram, the quality of the wool, and the completeness of the animals to be taken into consideration.—Mrs. Huskisson.

15.—A premium of 5*l.* to the breeder of the best 4-tooth Southdown ram, the quality of the wool, and the completeness of the animal to be taken into consideration.—Mrs. Huskisson, who very generously presented both prizes to the West Sussex Agricultural Association, for the reward of meritorious labourers.

16.—A premium of 5*l.* to the breeder of the best 2-tooth Southdown ram, the quality of the wool, and the completeness of the animal to be taken into consideration.—Awarded to Mr. Calhoun, for the first and second best, but he being disqualified it was given to Mr. A. Wyatt.

17.—A premium of 10*l.* to the breeder of the best Southdown ram lamb, the quality of the wool, and the completeness of the animal to be taken into consideration, the gift of his Grace the Duke of Richmond.—Mr. C. Duke, sold to Mr. Grantham, of East Sussex.

18.—A premium of 3*l.* to the breeder of the best sow pig, over six months of age and under twelve months, the gift of Hasler Hollist, Esq.—Mr. Walter Calhoun.

19.—A premium of 2*l.* to the breeder of the best boar pig, over six months of age and under 12 months, the gift of Hasler Hollist, Esq.—Mr. Calhoun.

At this dinner a challenge was offered by Mr. Bishop, of Walderton, to show a steer and an ox at Christmas, 1838, against any that could be produced. The offer was accepted and the sweepstakes made, the Duke of Richmond giving 5*l.*

HAILSHAM.

The Christmas show of fat stock took place on Wednesday, December 6. The number of stock shown was not quite so great as on former occasions; but the quality has not been surpassed at this show. The judges were Messrs. T. Cooper, of Norton, Morris of Ranscombe, and Mr. Waghorn, of Hastings. Several agriculturists sat down to an excellent dinner at the Crown Inn, after the show, Mr. A. Denman in the chair. After the usual toasts, the awards of the premiums were declared as follow:—

CLASS 1.—A prize of 10*l.* the gift of the Right Hon. the Earl of Burlington, to Messrs. John and Richard Lambe, of Wilmington, as the owners of the best fat Sussex ox, five years old and upward, bred in Sussex, fed on grass, hay, turnips, mangel wurzel, or potatoes, having been in possession of the owners nine months, and worked regularly in the team until the 1st of October, 1836, and having been out at grass from the 1st of June, 1837, to the 1st of September, 1837.

A prize of 5*l.*, the gift of G. Darby, Esq., M.P., to Mr. Thomas Noakes, of Jevington, as the owner of the second best ditto.—Bred by Mr. Noakes.

2.—A prize of 5*l.* to Mr. Thomas Noakes, of Jevington, as the owner of the best fat Sussex ox, five years old and upwards, bred in Sussex, unrestricted as to feeding, having been in the possession of the owner nine months, and worked regularly in the team until the 1st of October, 1836.—Bred by Mr. Noakes.

3.—A prize of 5*l.* to Mr. Thomas Pagden, of Arlington, as the owner of the best fat Sussex steer, under four years old, bred in Sussex, that has lived with other young stock until the 1st of October, 1836.

4.—A prize of 5*l.* the gift of the town of Hailsham, to Mr. John King, of Berwick, as the owner of the best fat Sussex cow, five years old and upwards, bred in Sussex, that has reared a calf in 1836, and been kept with the dairy cows until the first of October, 1836.—Bred by Mr. Hurst, of Rodmill.

A prize of 3*l.* to Mr. Arnold Denman of Willingdon, as the owner of the second best ditto.—Bred by Mr. Denman.

5.—A prize of 5*l.* to Mr. John Putland of Firle, as the owner of the best fat Sussex open heifer, under four years old, bred in Sussex, that has lived with other young stock until the 1st of October, 1836.—Bred by Mr. Putland.

A prize of 3*l.* to Mr. John King, as owner of the

second best ditto.—Bred by Mr. William Rason, of Eastbourne.

6.—A prize of 5*l.* to Mr. William Lambe, of Wilmington, as the owner of the best pen of five fat Southdown wethers, 32 months old, bred in Sussex, that have been folded until weaning time, 1836.—Bred by Mr. Lamb.

7.—A prize of 5*l.* to Mr. William Arkoll, of Westham, as the owner of the best pen of five Southdown wethers, 20 months old, bred in Sussex, that have been folded until weaning time.—Bred by Mr. Arkoll.

A prize of 3*l.* to Mr. John Holland, of Pevensey, as the owner of the best second ditto.—Bred by Mr. J. King.

SMITHFIELD CATTLE CLUB SHOW.

PREMIUMS AWARDED.

This annual show, which excites so much interest among the agricultural community, and is really of so much benefit to the manufacturing population, in consequence of the improved breed of cattle which has emanated therefrom, took place on Friday, Dec. 8. We are happy to announce, that, interesting as this show generally is, it this year exceeds in quantity and quality those of many years past.

The judges on this occasion were—Mr. Edward Franklin, of Ascot, near Tetsworth; Mr. Ralph Oldacre, Clipstone, near Market Harborough; Mr. John Jellicoe, Bighterton, near Shipnall. After these gentlemen had handled and examined the cattle, the following prizes were awarded:—

CLASS 1.—The first premium of 20 sovereigns, in this class, for oxen or steers of any breed, under five years of age, without restriction as to feeding, be adjudged to John Thomas Smith, Esq., of Postlands, near Crowland, Lincolnshire, for his four-years-and-ten-months old Hereford ox, bred by Mr. Hower, of Hampton Lodge, near Hereford, fed on carrots, oil-cakes, and hay, as also bean-flour, from the 1st of October, 1837. Travelled to the show by caravan 120 miles.

A silver medal was awarded to Mr. John Hower, as the breeder thereof.

The second premium of 10 sovereigns in the above class was adjudged to the Right Hon. the Earl of Leicester, for his Lordship's four-years-old Devon ox, bred by his Lordship, and fed on Swede turnips, mangel wurzel, linseed cake, corn, hay, green clover, and vetches. Travelled by caravan 120 miles.

The following oxen in this class were commended:—Mr. Gible's steer, of the Devonshire breed, was highly commended, as an extraordinary animal of his age. Mr. R. Lovell's was highly commended. Commended—Capt. Spencer's Durham ox, Mr. R. Smith's short-horned ox, Mr. S. Slater's ditto, and the Hon. C. Arburthnot's Durham ox.

CLASS 2.—That the first premium of 30 sovereigns in class 2, for oxen or steers, of any breed, under six years of age, weight 90 stone and upwards, that shall not have had corn, cake, meal, seeds, grains, or distillers' wash, twelve months previous to the 1st of August, 1837, be adjudged to J. T. Senior, Esq., of Boughton House, near Aylesbury, Bucks, for his four-years-and-ten-months Hereford ox; bred by Mr. W. J. Stollard, of Red Marling, near Gloucester; fed on grass, hay, 880*lb.* of oil cake. Travelled by boat 40 miles to the show.

That a silver medal be awarded to Mr. Stollard, as the breeder of the above.

That the second premium of 15*l.* in this class be adjudged to R. Lovell, Esq., of Edgcote Lodge, near Banbury, Northamptonshire, for his four-year old and five months Durham ox, bred by himself, and fed upon turnips, potatoes, 1,820*lb.* of oil-cake, 2,080*lb.* of corn. Travelled by boat and waggon 72 miles.

CLASS 3.—That the first premium in the class of 15 sovereigns for oxen or steers of any breed, under five years of age, under 90 stone and above 70 stone weight, that shall not have had cake, corn, meal, seed, grain, or distiller's wash twelve months previous to the 1st of August, 1837, be adjudged to J. T. Senior, Esq., of Boughton House, near Aylesbury, for his four year old and one month Hereford ox, bred by the Rev. J. R. Smithies, Lynch Court, near Leominster, fed on grass, hay, 860*lb.* of oil cake. Travelled to the show 40 miles.

That a silver medal be adjudged to the Rev. Mr. Smithies, as breeder of the above.

That the second premium of 10 sovereigns in class 3 be adjudged to Mr. Richard Hewitt, of Dorford, near Daventry, Northamptonshire, for his three year and ten months old Hereford ox, bred by Mr. John Davies, of Priors Halton, near Ludlow, fed on grass, hay, turnips, 640*lb.* of oil cake, and travelled by boat to the show 70 miles.

CLASS 4.—That the premium of 10 sovereigns in class 4, for oxen and steers of any breed, under 4½ years age, and under 80 stone weight, without restriction as to feeding, be adjudged to Mr. Bailey, of Shenly-house, near Stoney Stratford, for his three-years-and-ten-months old Hereford ox, bred by Mr. T. Arden, and fed on grass, hay, 7 cwt. of oil-cake, and travelled to the show by boat 60 miles.

That a silver medal, as the breeder of the above, be awarded to Mr. T. Arden, of the Leys, near Hereford.

The competitors in this class were generally commended, as were the steers of Mr. T. Wratlaw, in class 2 and 3, and also Mr. Bailey's Hereford ox in the latter class.

CLASS 5.—That the first premium of 10 sovereigns in class 5, for oxen or steers of any breed, not exceeding four years and three months of age, under 70 stone weight, that shall not have had cake, corn, meal, grain, or distiller's wash, 12 months previous to the 1st of August, 1837, be adjudged to J. T. Senior, Esq., of Boughton House, near Aylesbury, Bucks, for his three-years-and-four-months-old Hereford ox, bred by the Right Hon. the Earl Talbot, of Instegrie, Staffordshire, and fed on grass, hay, and 620*lb.* of oil-cake. Travelled on foot 40 miles to the show.

That a silver medal be adjudged to Earl Talbot as the breeder of the above.

That the second premium in class 5 be adjudged to Josh. Bailey, Esq., of Shenly House, near Stoney Stratford, for his 4 years Scotch ox, bred by Mr. McTurk, and fed on grass, hay, and 560*lb.* of oil-cake. Travelled by boat 60 miles to the show.

CLASS 6.—That the first premium of 15 sovereigns in class 6, for fattened cows or heifers under five years of age, Freemartens and speyed heifers not qualified, be adjudged to R. W. Baker, Esq., of Cottesmore, in the county of Rutland, for his 3 years and 5 months old improved short-horned heifer, bred by himself, and fed on oil-cake, barley and bean meal, and vegetable food. Travelled by van 110 miles to the show.

That a silver medal also be awarded to R. W. Baker, Esq., as breeder of the above.

That the second premium of five sovereigns in class 6, be adjudged to W. F. Wratlaw, Esq., of

Rugby, Warwickshire, for his four-years-and-seven-months old Durham heifer, bred by Mr. W. Rook, of Edgcote, near Banbury, and fed on grass, hay, turnips, carrots, cake, and corn; and travelled on foot two miles, and 112 miles by water, to the show.

The above class was severally commended.

CLASS 7.—The first premium of 15 sovereigns in class 7, for fattened cows of 5 years old and upwards. Freemartens and speyed heifers not qualified, be adjudged to Sir C. Knightley, for his eight-years-and-two-months-old Durham cow, bred by himself, and calved five separate times, and fed on oil-cake, Swede turnips, and barley meal. Travelled by boat 74 miles to the show.

That a silver medal be awarded to Sir Charles Knightley, as the breeder of the above.

That the second premium of five sovereigns in class 7, as above, be adjudged to the most Hon. the Marquis of Exeter, for his lordship's seven-years-and-nine-months old Durham cow, bred by J. Whitaker, Esq., of Burley Otley; has not had a calf at her full time; was put to fatten on the 1st of September, 1836, and until that time was as much starved as possible to make her breed. She was fed on 400lbs. of oil-cake, 1,250lbs. of bean flour, and 300lbs. of barley flour, carrots and hay. Travelled by waggon 90 miles to the show.

The gold medal of five sovereigns to the breeder of the best beast in any of the above classes be adjudged to R. W. Baker, Esq., for his three-year-and-five months-old improved short-horned heifer, which gained the first prize in class 6.

Capt. R. B. Allardice's short-horned heifer was commended; and the judges highly commended a Durham cow belonging to W. F. Wratelaw, Esq.

LONG-WOOLLED SHEEP.

CLASS 8.—That the premium of 10 sovereigns, in class 8, for long-woolled fat wether sheep, one year old, that have never had cake, corn, meal, seeds, or pulse, be adjudged to J. S. Burgess, Esq., of Holme Pierpoint, near Nottingham, for his three 20-months-old Leicester wethers, bred and fed by himself.

That a silver medal, as the breeder of the above, be adjudged to Mr. Burgess.

That the second premium of five sovereigns, in class 8, be adjudged to Mr. J. Painter, of Burley, near Oakham, Rutland, for his three 32-months-old Leicester wethers, bred by himself from rams hired of R. Cresswell, Esq., of Ravenstone, near Ashby-de-la-Zouch, and fed by Mr. Painter.

CLASS 9.—That the premium of 10 sovereigns in this class, for long-woolled sheep, one year old, without restriction as to feeding, be adjudged to Mr. Richard Hickson, of Hougham, near Grantham, for his three 32-months old wethers, bred and fed by himself. Travelled in a cart 116 miles to the show.

That a silver medal, as the breeder of the above, be adjudged to Mr. Hickson.

CLASS 10.—That the premium of 10 sovereigns in class 10, for long-woolled fat wether sheep, two years old, without restriction as to feeding, be adjudged to Mr. Richard Rowland, of Creslow, near Aylesbury, Bucks, for his three 33-months-old long-woolled wethers, of the Cotswold and Leicester breed; bred by T. M. Kerr, Esq., of Westwell, near Burford, and fed by Mr. Rowland: in whose possession they have been since May, 1836.

That a silver medal, as the breeder of the same, be given to Mr. Kerr.

The gold medal was awarded to J. S. Burgess, Esq., for the best pen of sheep in the above class.

CLASS 11.—That the first premium of 15 sove-

reigns, in class eleven, for short-woolled fat wether sheep, one year old, without restriction as to feeding, be adjudged to his Grace the Duke of Richmond, for his Grace's three 20-months old South Down wether sheep, bred and fed by his Grace.

That a silver medal, as the breeder of the above, be adjudged to his Grace.

That the second premium of five sovereigns, in class eleven, as above, be adjudged to Stephen Grantham, Esq., of Stoneham, near Lewes, for his three 20-months' old South Down wethers, bred and fed by himself.

CLASS 12.—That the first premium of 10 sovereigns, in the above class, for short-woolled fat wether sheep, two-years old, without restriction as to feeding, be adjudged to Stephen Grantham, Esq., of Stoneham, near Lewes, for his three 32-months old South Down wethers, bred and fed by himself.

That a silver medal, as the breeder of the above, be adjudged to Mr. Grantham.

That the second premium of five sovereigns in class 12, as above, be adjudged to his Grace the Duke of Richmond, for his Grace's three 32-months old South Down wethers, bred by his Grace.

That the gold medal, value five sovereigns, to the breeder of the best pen of short-woolled sheep, exhibited in 11 and 12 class, be adjudged to his Grace the Duke of Richmond, for his three 20-months wethers, which gained the first premium in class eleven.

The judges highly commended Lord King's three 32-months Down wethers, which were excluded in consequence of no certificate having been received.

PIGS.

CLASS 13.—That the first premium of 10 sovereigns, in the above class, for pigs of any breed above four months old, and under nine months old, be adjudged to the Right Hon. the Earl of Harborough, for his lordship's three pigs of the Neapolitan and Chinese breed, and fed by his lordship at Melton Mowbray, on wheat, flour, barley meal, and skimmed milk. That a silver medal as the breeder of the above be awarded to his lordship.

That the second premium in class 13, of five sovereigns as above, be awarded to Mr. George William Kirby, of Epping Bury, near Epping, for his three pigs of the Bedfordshire breed, 28 weeks old, bred by Thomas Kempson, of Lower Gravenhurst, near Silsoe, Beds, and fed by Mr. Kirby, on skimmed milk and peas within the last three months; their food has been for the three pigs skimmed milk and half a peck of peas daily. This class was generally commended.

EXTRA STOCK.

A silver medal to the exhibitor of the best beast in extra stock was adjudged to W. F. Wratelaw, Esq., of Rugby, for his three years and five months old short-horned heifer, bred by the late Mr. Thomas Tewe, of Newton-mill, near Rugby; travelled by boat 112 miles.

A silver medal to the exhibitor of the best fat long-woolled sheep in extra stock, be adjudged to Mr. R. Rowland, of Creslow, for his 36-months old long-woolled ewe, bred by Thomas Wells, Esq.

A silver medal to the exhibitor of the best fat short-woolled sheep in extra stock be adjudged to Stephen Grantham, Esq., for his 32-months South Down wethers.

A silver medal was adjudged to the Earl of Harborough, for his lordship's 23½-months old Neapolitan and Leicester breed of pigs.

THE DINNER.

The anniversary dinner took place on Monday, Dec. 11, at the Freemasons' Tavern, Great Queen Street. The tables were laid for 300, but from the unexpected presence of a greater number of gentlemen than had ever attended on a similar occasion, it became necessary to arrange a separate apartment from the Freemasons' hall, where the banquet was served to accommodate nearly a hundred extra visitors. Among the most conspicuous personages present were, besides Earl Spencer, the President of the Club, the Duke of Richmond, the Earl of Scarborough, Earl Talbot, Lord William Lennox, Viscount Maidstone, Sir Owen Pell, Col. Sibthorpe, M.P., H. C. Handley, Esq., M.P., C. Hillyard, Esq., Messrs. Grantham, Smith, Senior, Baker, Wilmot, and many other distinguished agricultural gentlemen.

When the cloth was removed,

Lord SPENCER rose, and proposed "The health of her most gracious Majesty, Queen Victoria the First." (Drunk with the usual honours.)

His LORDSHIP next proposed "The Queen Dowager and the rest of the Royal Family." (Three times three.)

He then rose, and begged to call the attention of the company to the objects for which they had there assembled, which were in support of an institution from which the most beneficial advantages had already resulted to the farming interests of England, and which, he was sure, if so ardently cherished by the landed proprietors and farmers as their numbers on the present occasion evinced it was, would continue to confer the same advantages upon the empire at large. (Cheers.) The exhibition of stock which had just ended, although not so perfect as all should desire it to be, was as near perfection as they could reasonably expect. The animals that had been shown did credit not only to the successful, but to the unsuccessful candidates for rewards, and he trusted that at every future exhibition such an improvement would be visible as must have been observed by all had taken place since last year,—(hear)—in the appearance and description of cattle that had been exhibited. Their attention, however, should not be confined to this subject alone, the general interests of farming should obtain much of their notice, for he could say, from his own experience, that agriculture, generally speaking, was capable of much improvement. (Hear, hear.) He had himself observed how much, in late years, farms had improved; and it was his sincere belief that, at the present moment, farming, in England, was in its infancy. The application of science to practice was not as yet made by the English farms, but if the experiments that had been successfully tried elsewhere, were made intelligible to him, and the practicability of them explained, he (Earl Spencer) had no doubt but that an improvement would soon take place that few had now any conception of. (Hear, hear.) Their society in the metropolis was totally useless for the promotion of the general purposes of agriculture, but if a society were established for agricultural purposes exclusively, he hesitated not to say that it would be productive of the most essential benefits to the English farmer. He knew that many persons engaged in agriculture fancied that the distribution of prizes to the owners of fat cattle was only a very harmless sort of amusement, and did not the slightest good. He was of a different opinion, and he was satisfied if it were not for the establishment of this club, and other similar societies in the country branching from it, the state of their cattle, their oxen, and sheep would be much inferior to what they

had last week witnessed it was. There was one point however, which he must strongly impress upon them, in reference to the formation of a society such as he had mentioned, namely, that there could be no prospect of their obtaining any useful results unless politics, and the discussion of all matters which might become subjects of legislative enactment, were scrupulously avoided at these meetings. Having made these observations on the necessity of establishing an agricultural association, similar to the Highland Society of Scotland, the noble lord begged leave to give "Success to the Smithfield Club." (Cheers.) His lordship next proposed the health of a nobleman to whom he must say that the Club in a great measure owed its origin, and than whom, for his constant services in the promotion of the interests of agriculture, none was more deserving of their thanks—"The Duke of Bedford." (Cheers.)

The Duke of RICHMOND rose, and requested permission to propose the health of the noble lord, their President, to whom not only this society, but the farming interests generally, were indebted for their prosperity. (Cheers.) In his presence, he (the Duke of Richmond) would say no more than that they were all under a deep debt of gratitude to him for the interest he took in the advancement of agriculture, and he felt bound to say with respect to that noble lord, and for himself personally, that they never enjoyed greater pleasure than when meeting with their brother farmers. (Cheering.)

Earl SPENCER returned thanks, and expressed his determination to use his best exertions to promote the objects of the club. He regretted that the noble Duke had proposed his health so early in the evening, for presently he should be obliged, as one of the "unsuccessful candidates," to reply when that toast would be proposed. (Laughter.) However, he now thanked them most heartily for the manner in which they had drunk his health, and begged again to assure them, that so far as his humble efforts might contribute to their common success, nothing would be left undone by him. (Cheers.)

His LORDSHIP then proceeded to confer the rewards upon those to whom they had been adjudged, agreeably to the subjoined statement. As the noblemen and gentlemen received the premiums allotted to them, his lordship proposed their healths in the order in which they were arranged.

On presenting the Duke of Richmond with his prize,

Earl SPENCER said he deemed it totally superfluous to say one word in addition to proposing the health of the noble Duke—(loud cheering)—for he was convinced that all would heartily join in drinking the toast—"The Duke of Richmond." (Loud cheers.)

The Duke of RICHMOND rose, and was received by the company standing with the most enthusiastic cheering. My Lords and Gentlemen (said he), I am greatly flattered by the complimentary manner in which you have been pleased to receive the proposition of my health on the present occasion. It is highly gratifying to my personal feelings, and demands the expression of my hearty acknowledgments. (Cheers.) When you first did me the honour to elect me a Member of your Club, and for several years afterwards, it was my fate to have to return thanks as one of your unsuccessful candidates. (Laughter and Cheers.) I took the liberty on those occasions of telling you, notwithstanding my defeat, that I was determined to persevere, and at all events, if not successful, I was determined to profit by the experience I might acquire amongst you, by a comparison of my stock of cattle with that which I have witnessed in your show-yard to-day—(cheers)—and I always hoped and trusted that a day would arrive

when I would be proclaimed a successful candidate. I not only stated that I hoped to be a successful candidate, but that ere long we should be able to show as good a breed of South Down sheep in the west as you have in the east of Sussex. My anticipations of last year have been realized, for I have this year got the prize for short woolled sheep—(cheers)—and, if I am not misinformed, we have already beat some of the gentry of the eastern part of Sussex, with whom I, in a friendly spirit of emulation, have contended. I have been told that my friend Mr. Grantham has purchased a ram from one of my tenants. I do not state this invidiously—(laughter)—nor do I mean to strike a beaten foe, but to show you by my own example, how useful and necessary it is for all of us to persevere in our exertions, and not to be discouraged by having been once beaten, but to go on and endeavour to gain the prize; and believe me, if we all did so, there is not an individual amongst us who would not be a gainer. (Cheers.) Before I sit down, I must say a few words respecting what has fallen from my Noble Friend, as to the necessity of establishing a society for the improvement of agriculture. (Hear, hear.) He has stated that great advantages would be derived from such an institution; and, as an evidence of the necessity, it has been mentioned to me that there is a great falling off in the quality of the South Down sheep. Now, although I did not gain my prize by the falling off of this description of sheep—for my success was owing to the improvement of my own stock—yet I do agree with him, and think we ought to have an institution for the improvement of agriculture. (Loud cheers.) Connected as I am with Sussex, and also connected with the northern part of the empire, I am assured that the landowner and tenantry of the former place feel deeply indebted to the Highland Society for the agricultural information it has been the means of diffusing throughout the country. That Society has been the means of promoting much useful knowledge, and removing many ridiculous prejudices, with respect to agriculture, that have essentially benefitted the whole farming interests of Great Britain, and I cannot see any reason why the farmers of England should fail to imitate so excellent an example. As an individual, I feel it my duty to give my support to my noble friend in his exertions to institute such a society, because I am convinced that such an institution will promote agriculture and confer great and inestimable advantages on every class of the community, for the interests of all are the same, and therefore we ought to call upon this great and enlightened country to aid in the establishment of an association from which such benefits must unquestionably be derived. (Cheers.) The noble duke concluded by again thanking them for the reception they gave him, and by promising to pursue the same course, which had on this, as on all former occasions, gained for him the approbation and gratitude of the farmers of England, whenever or wherever he had the fortune to meet them. (Loud cheering.)

Mr. HANDLEY, M. P., congratulated his brother farmers upon the advantages which must result from the establishment of an institution such as had been proposed by the noble Earl, and his Grace the Duke of Richmond; it was an object he had long had at heart. There was not, in his opinion, a single department of farming but was capable of vast improvement. He would give all the support in his power to the undertaking.

Mr. WILMOT expressed, in energetic language, the gratification he felt at the prospect of the establishment of a general agricultural society upon the

principle of the Highland Society, and promised to exert himself to the utmost in assisting to establish it.

On the health of Mr. Grantham being proposed, he begged to explain, in reference to the allusion made to him by the noble duke, that the sheep he purchased from one of his tenantry was of so inferior a description that he was obliged to sell it, being not good enough to keep. (Laughter.)

The Duke of RICHMOND was sorry his friend had been so bad a judge of stock. He was glad, however, that the animal had been sold, for he was afraid it would have been exhibited against his own at the show. (Continued laughter.) His Lordship next proposed the health of the "Unsuccessful Candidates."

Mr. HILLYARD in returning thanks, as one of the unsuccessful candidates, said, that in exhibiting the beast in class 3 he could truly say that he did not expect to gain a prize, but he had no hesitation in stating that there was not a more useful beast shown. (Oh, oh.) Gentlemen should hear his remarks upon the animal before they exclaimed oh. He did not exhibit the animal as a specimen of what an ox ought to be, but as, in a great many parts, what it ought not to be, as a specimen of an error into which in his humble judgment many of the breeders of Herefordshire cattle have of late years fallen. That was a want of muscle, consequently when the animal was full fed a deficiency of a due proportion of lean meat to the fat, being fat upon the rumps which is of very little value, wide hips, narrow chins and thin in the thighs. He begged to assure them that although defeated on the present occasion he did not feel himself vanquished, and that next year he should bring forward two oxen, one a mountain the other a molehill. He confessed that he was not fond of the expence of feeding for the first class, and never again intended to do so, but as his mountain had evidently at present abundance of faults in his shape, he did not know any better mode of curing those faults than by abundance of oil cake. His little molehill which he accidentally picked up in a fair, and could not find out the breeder, should be fed upon the restricted terms, and he had little doubt but that he should win a prize at the Northamptonshire show, and he thought he should stand a good chance in class 5, at the Smithfield show.

The Duke of RICHMOND then proposed Lord Scarborough's health, and that his lordship should be appointed a vice-president of the Club. (Cheers.) He considered it of the greatest importance that the great landed proprietors of England should mix with the farmers. (Hear, hear.) If they once did do that, he was sure they would come again; for wherever he had come in contact with them in the country, he was sure to be well received.

Both propositions having immediately been acceded to amidst great cheering,

Lord SCARBOROUGH said that he felt much indebted to them for their kindness, but he was quite unprepared for it. He most highly approved of the principles of the club; but he must confess that he was not so well acquainted with its application as he ought to be; but before he met them again, he had no doubt but that he should be improved in that respect. (Cheers.)

The noble President announced as the next toast "Prosperity and comfort to the labourers of the United Kingdom," which was received with cheers.

The healths of the Judges, the Steward, and the Secretary were then drunk, and, after other routine toasts, the company broke up, apparently highly delighted with the evening's entertainment.

SMITHFIELD SHOW.

WEIGHT OF THE BEASTS IN STONES OF 8LBS.

Mr. Kidd's 3 yrs. and 9 months old Hereford Ox in class I, purchased by Mr. Giblett, Her Majesty's butcher in Bond-street; weighed 166 st.

Mr. Giblett's 2 yrs. and 7 months Devon Steer in class I, highly commended by the Judges, as an extraordinary animal; 166 st. 4½ lbs.

Mr. G. Smith's 4 yrs. old Hereford Ox shown in class II, and bought by Mr. Giblett; 169 st. 7 lbs.

Mr. Hewitt's 3 yrs. and 9 months old Hereford Ox shewn in class IV, and bought by Mr. Giblett, 138 st.

Mr. Smith's 4 yrs. and 10 months old Hereford Ox, which gained the 1st prize in class I of 20 sovs., and purchased by Mr. Slater, Her Majesty's butcher in Kensington; 213 st. 4 lbs.

The Earl of Leicester's 3 yrs. and 9 months old Devon Ox, which gained the 2nd premium of 10 sovs., also purchased by Mr. Slater, 150 st. 2 lbs.

The Hon. C. Arbuthnot's 4 yrs. old Durham Ox, highly commended by the Judges, and bought by Mr. Morton of Great Bell-alley, Bishopsgate-street; 186 st. 1lb.

Mr. Baker's 3 yrs. and 5 months old improved Short-horn Heifer, which gained the 1st premium of 15 sovs. in class VI, and a gold medal as the best animal in the Beast classes, bought by Mr. Morton of Great Bell-alley; 152 st. 3lbs.

Mr. Wratlaw's 4 yrs. and 7 months old Durham Heifer which gained the 2nd premium of 5 sovs. in class VI, and bought by Mr. Morton of Great Bell-alley; 154 st. 5lbs.

Mr. Wratlaw's 3 yrs. and 5 months old Fat Heifer of the Short-horned breed, which gained the silver medal as extra stock, and bought by Mr. Morton, Great Bell-alley; 147 st. 6lbs.

Mr. J. Bailey's 4 yrs. old Scotch Ox which gained the 2nd premium of 5 sovs. in class V, and bought by Mr. Croker of the Fulham-road, Chelsea; 124 st. 4 lbs.

Mr. W. J. Bailey's 4 yrs. old Scotch Ox shown in class V, and bought by Mr. Croker of the Fulham-road, Chelsea; 121 st.

Mr. Wratlaw's 3 yrs. and 11 months old Durham Steer exhibited in class I, and bought by Mr. Mortlock, Lambeth, New Cut; 185 st. 4 lbs.

Mr. Senior's 4 yrs. and 10 months old Hereford Ox which gained the 1st premium of 30 sovs. in class II, and bought by Mr. Ford of Kenton-street, Brunswick Square; 195 st.

Mr. Lovell's 4 yrs. and 4 months old Durham Ox which gained the 2nd premium of 15 sovs. in class II, and bought by Mr. Cowell, butcher, Knightsbridge; 193 st. 6 lbs.

Earl Spencer's 4 yrs. and 8 months old Durham Ox shown in class II, and bought by Mr. Strachan of Whitechapel; 176 st.

Mr. R. Hewett's 3 yrs. and 10 months old Hereford Ox, which gained the 2nd premium in class III, and bought by Mr. Dobbins of Drury-lane; 150 st.

Mr. W. J. Bailey's 3 yrs. and 10 months old Hereford Ox, which gained the premium of 10 sovs. in class IV, and bought by Mr. Mann of St Mary Axe; 140 st. 6lbs.

Sir T. Whichelowe's 3 yrs. and 7 months old Short-horned Heifer, bought by Mr. Payne of Seymour-street, Somers-town; 174 st. 3lbs.

Sir C. Knightly's 8 yrs. and 2 months old Durham Cow, which gained the 1st. premium of 15 sovs. in class VII, and bought by Mr. Peaty of the Broadway, Westminster; 185 st. 6lbs.

SMITHFIELD SHOW—DECISION OF THE JUDGES.

FROM THE MARK LANE EXPRESS.

When the health of the judges was proposed from the Chair, at the Smithfield Show, a partial hissing took place at the lower part of the room, thereby manifesting the dissatisfaction of some parties with the award of those gentlemen. Now we most certainly do in the abstract hold with the rule that all persons submitting to the decision of judges should cheerfully abide by the result. If the dissatisfaction should arise from the peculiar temperament of an individual or individuals, who may think all his or their "geese swans," or in cases when from the near merits of the animals it becomes almost impossible to decide, we should be amongst the first to stifle any such expression of feeling. But setting aside all suspicion of partiality, when an error of judgment is made, such as to strike every competent judge, whose attention is directed to the subject, we are not prepared to say that in no case should any dissatisfaction be expressed. That a great error was committed in the award of the judges at the late Show will, we apprehend, not be questioned, if such had not been the case it would have been impossible that the prize in class 2 should have been awarded to the Hereford ox, instead of the short-horned Durham ox. We are aware that in thus questioning the soundness of the decision of the judges we may be called bold, perhaps, by some presumptuous, but although entertaining a strong opinion upon the subject, we perhaps, should not have done so were we not confirmed by some of the best judges of stock who visit the Smithfield Show. Of the two animals in question, not having seen them dead, we cannot speak with such entire confidence, but as regards Mr. Giblett's steer, bred by Mr. Gibbs of Bishop's Lydiard, Somersetshire, which stood in competition with the Earl of Leicester's Devon ox, the one which obtained the prize; the superiority of Mr. Giblett's ox is very evident. We observed in our last that we did not consider Mr. Giblett's animal to be of the pure Devon breed, and that he was the produce of a cross. In this opinion we did not stand alone. We have since seen Mr. Gibbs the breeder, who states that the breed was originally pure Devon, and has never been crossed, yet it is what is called in the lower part of the county of Somerset, the *Improved Devon*. The improvement has not been effected by a cross with any other breed, but is the result of alteration, occasioned by breeding and feeding on the rich pastures in Somersetshire. So far as regards a change in the character of the animal we were perfectly correct, although the alteration was occasioned not by the introduction of fresh blood, but change of food and climate, which it is well known will effect great alteration in the constitution of animals. So far as regards the characteristic points of the pure Devon the Earl of Leicester's animal came as near perfection as can be seen, but the real question to be decided was upon the merits of the animals respectively, in other words upon the carcasses of two animals,

both of which had been fed without restriction. Had either of the animals died differently to what had been anticipated, if the inferior points in Mr. Giblett's steer had turned out better when dead, and the superior points in the Earl of Leicester's ox turned out worse, it might have been fairly said, that as the award was made according to points of the animal, as presented externally, it was impossible to examine them internally; but when it turns out that there is no material difference, and that bad points in the prize animal when living present the same appearances when dead, such an answer is not pertinent. It is manifest there have been "mistakes" which we hope will not occur again.

FROME AGRICULTURAL SOCIETY.

The General Meeting and Annual Exhibition were held on the 6th December, when the following premiums were awarded:—

No.		£	s.	d.
1	Mr. John Steeds, Kilmersdon, the best fat Ox	5	0	0
	Mr. W. Steeds, Norton Down, the bounty of	1	0	0
2	Mr. W. Steeds, ditto, the best fat Steer ..	4	0	0
3	Mr. W. Steeds, ditto, the best fat Cow ..	5	0	0
4	Mr. John Gray, Stratton, the best fat Heifer, under 4 years old	4	0	0
5	Mr. Stephen Roberts, Maiden Bradley, the best Bull, Dairy Cow, and their Offspring, under 24 calendar months old	5	0	0
6	Mr. W. Jefferys, Maiden Bradley, breeder, the two best Dairy Cows in Milk ..	3	0	0
7	Mr. Stephen White, Warminster, the three best in-calf Heifers, under 36 calendar months old, not having been milked	2	0	0
8	Mr. W. Jefferys, Maiden Bradley, the three best in-calf Heifers, under 36 calendar months old, and in milk	2	0	0
9	Mr. W. Jefferys, Maiden Bradley, the three best in-calf Heifers, under 24 calendar months old	3	0	0
10	Mr. Robert White, Zeals, the best Bull of any age	3	0	0
11	Mr. Stephen White, Warminster, breeder, the best Bull, under 24 calendar months old	3	0	0
12	Mr. W. Steeds, Norton Down, the five best long wool fat Wethers	2	0	0
13	Mr. W. Steeds, Norton Down, the five best Southdown fat Wethers	2	0	0
14	Mr. John White, Mells, the ten best Southdown breeding Ewes	2	0	0
15	and 16, none.			
17	Mr. John Crees, Nunney, the best boar Pig	1	0	0
18	Mr. Henry Sperring, Buckland, the best breeding Sow	1	0	0
19	Mr. Charles Harding, Woodcock-farm, the two best fat Pigeons			
20	Mr. James Crees, Witham, 5 cwt. of best Cheese, not exceeding 3 cheeses to the cwt.	2	0	0
21	Mr. John White, Mells, 5 cwt. of best Cheese, above 3 and not exceeding 6 to the cwt.	2	0	0
22	and 23, none.			
24	Mr. Perks, Road, the purchaser of the largest quantity of Cheese pitched at the monthly market	2	0	0
25	Mr. Stephen White, Warminster, the second largest quantity	1	0	0

EXTRA STOCK.

£ s. d.

Mr. Joseph Harding, Maiden Bradley, three two years old Steers, a bounty of. . . 1 0 0
 Mr. Joseph Lush, Kilmington, a bounty of. . 1 0 0
 The umpires were Mr. Stratton, of Manningford, near Devizes; Mr. B. Woolly, of Wilmington; Mr. J. Pocock, of Semington.

BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY.

The adjourned November meeting of this society was held at Hetling House on Monday, Dec. 11, Sir T. B. Lethbridge, bart., V. P. in the chair, when the usual routine business was transacted, and Messrs. Lush, Ardern, and Parsons, were appointed Judges of live stock.

The annual meeting was held on Tuesday.

Sir T. B. LETHBRIDGE, bart., was called to the chair. —He opened the business of the meeting by observing that death had been making havoc among their friends; they had lost one noble lord, a vice patron of the Society, viz., the Lord Lieutenant of the County, and he would say of him that a man who stood higher in the estimation of his fellowmen was seldom to be met with. But he would take the liberty of naming another noble lord to fill the office of vice patron, in the room of the late lamented Marquis of Bath. He would only mention him, and leave him in the hands of the meeting—he referred to the present Lord Lieutenant of the county of Somerset, Lord Ilchester. (*Applause.*)

Lord Ilchester was then on, the motion of Capt. SCOBELL, seconded by Sir W. S. R. COCKBURN, bart., unanimously elected a vice patron of the society in the room of the Marquis of Bath, deceased.

Mr. BAILWARD submitted a loaf of bread to the society, in which yeast was used that was obtained from the brewing of one gallon of malt, according to a plan recommended by Sir William Elford. Several gentlemen present tasted of the bread, and pronounced it excellent.

Dr. WILKINSON communicated the result of a useful invention of Mr. Perkins, for the warming of houses, by which any degree of heat might be obtained and a room once warmed would be kept at an equal temperature. The expence on the whole would be less than the present mode of warming rooms.

Mr. G. W. HALL hardly believed the public mind was awake to the economy of fuel and the equal distribution of heat that might be effected by such a plan. He was persuaded that at present three-fourths of the fuel consumed was wasted, and though they lived in a country in which coal abounded, that was no reason why they should misapply it. If they went into any scientific buildings, they still saw a barbarous application of the greatest blessing of life, and if there was one point more than another in which architects were defective, it was in the system of warming buildings.

Dr. WILKINSON moved that the premium offered in No. 4 of class 9, be discontinued, and the following substituted:—"Whereas, from recent experiments by Macaire, Marcet, and De Candolle, it has been demonstrated that all vegetables at the termination of their vegetable life, form, like animals, excretions at their roots; which excretions are found to be very injurious to similar plants, but highly beneficial to others, and that by a judicious rotation of crops, and selection as to soil, the produce is found to be not only increased, but the expenses of cultivation to be also greatly diminished; a premium of 20*l.* is hereby offered for the best essay on this important subject, accompanied with a statement of chemical investigation, and a detail of the practical and beneficial results following, with respect to wheat, barley, oats, and the most useful grasses."

Sir W. S. R. COCKBURN seconded the motion.

Mr. DAVIS spoke in favour of the motion, and thought

if they could bring chemical research and practical experiments more into exercise in their union, it would be of great importance to agriculture.

Mr G. W. HALL agreed with the leading doctrine that had been propounded, viz. that it would be for the benefit of agriculture if they could get practice and science to go hand in hand; but he would say it was a bold proposition to declare all the nutriment afforded to plants after they came above ground, was derived from the air. He had grown one plant on the same ground for twenty years following—viz. the potato. Now he believed there was that panacea in manure, which rectified the evil of the same plant in the same ground year after year. He feared they should not get such men of practice and science as were wanted. But on the subject of lime, he would mention to the meeting one other purpose for which he had found it beneficial. It was to convey a portion of increased temperature to lands about to be cultivated, which it did, if used in a caustic state; his method was to break the lime as small as possible, and spread it on the ground, and then half plough it in, and he found that a greater luxuriance of vegetation was produced.

Captain SCOBELL acknowledged the importance of the learned doctor's motion. It was second in importance to none, and he had no doubt if chemists and farmers would go hand in hand, they would produce satisfactory results. The motion was carried.

Mr G. W. HALL exhibited a contrivance for tying up cattle, for which the thanks of the meeting were voted to him.

Mr. BAILWARD made a statement of the ravages committed by the larvæ of the Harry long-leg fly, for the destruction of which he recommended the encouragement of those breeds of birds that lived on grubs only, such as the starling.

Mr W. M. ADAM then exhibited some Scotch cart-saddle-trees which he said were calculated to remove the inconvenience that was now sustained by the horse, in being obliged to draw by his back instead of his collar. He entered into some lengthened and excellent observations on the condition of draught horses generally, stating that if they were properly fitted to their work, they would be able to do at least one quarter more.

Mr. W. H. HIGMAN exhibited a life preserver which he had invented. It consisted of a circle of basket work large enough to encircle the body, on each side of which were sewn pieces of cork or old bottle corks.

Mr. MILES then rose and said as he had on a previous occasion, laid before them some curious calculations respecting the feeding of cattle, he would now give them the results of some experiments that had been made. Twenty head of cattle had been selected and divided in four lots, and fed respectively on turnips alone; turnips and oilcake; turnips and ground corn; and distillery grains and ground corn. It was found that turnips alone, was the most expensive mode in getting up cattle, but that a portion of oil-cake or bean-meal added, rendered the quality of the meal superior. Mr. Miles then went more in the detail of the results of the different modes of feeding, and stating the expense of each, and the weight produced, with which the meeting seemed highly pleased.

A vote of thanks was then passed to Mr. Miles, who said he should be ever happy to give all the information he might obtain that would be useful to the society, and as he was stirring about he endeavoured to find out, not only what was going on at home but abroad. (Cheers.)

PREMIUMS.

	£	s.
To Mr. Stephen White, Warmminster, for bull, cow, and offspring, Hereford breed, a premium of	15	0
To D. S. Hayward, Esq., Frocester Court, for the best fat ox, short-horned and Hereford breed, feeder only, a premium of	15	0
To D. S. Hayward, Esq., of Frocester Court, for the best fat steer, Hereford and Alderney, breed, breeder and feeder, a premium of	15	0
To Mr. Frackom, North Wraxall, for the best		

fat cow, Hereford breed, feeder only, a premium of	£	s.
To Mr. Charles Wood, Seddington, Gloucestershire, for the best fat heifer, Hereford breed, breeder and feeder, a premium of	8	0
To D. S. Hayward, Esq., Frocester Court, for the best fat ox (worked), short-horned and Hereford breed, feeder only, a premium of ...	15	0
To Mr. George Limbrick, Horton, Gloucestershire, for the four best fat wethers, improved Leicester breed, a premium of	6	0
To Mr. John Walker, Burton, Worcestershire, for the best three breeding heifers, Hereford breed, a premium of	10	0
To Mr. J. Sainsbury, West Lavington, Wilts, for the best six breeding ewes, Southdown breed, a premium of	10	0
To Mr. Thomas Lewis, Bathford, for the best boar pig, Norfolk and Berkshire breed, a premium of	2	0
To Mr. George Ferris, Shrivvenham, Berks, for the best fat sow pig, Norfolk breed a premium of	2	0
To Mr. Richard Hodge, West Monkton, near Taunton, for the best black stallion, a premium of	10	0
To Mr. George Ferris, Shrivvenham, Berks, for the best two of three breeding heifers, exhibited in class 1, short-horned breed, recommended, a bounty of	5	0

EXTRA STOCK.

To Mr. George Ferris, Shrivvenham, Berks, for the best fat sow pig, recommended, a bounty of	1	0
To Mr. Samuel Ferris, Bulkington, Wilts, for the best fat cow, short-horned, and Hereford breed, possessing great merit, recommended, a bounty of	3	0
To Mr. Thomas Hales, Bath, for the best fat ox, Devon breed, possessing considerable merit, recommended, a bounty of	4	0

(COPY.)

Office of Committee of Privy Council for Trade.
Whitehall, 6th Dec. 1837.

GENTLEMEN,—I am directed by the Lords of the Committee of Privy Council for Trade to inform you that the Memorial of the 7th of September last, signed by you and by many other persons, Corn Importers and Factors, relative to the abatement of duty on damaged Corn, has been under their consideration, and that they have also consulted with the Commissioners of the Customs and the Law Officers of the Crown thereon.

From the reports and opinions thus obtained, it appears to their Lordships, that the question at issue does not relate to the manner in which any supposed damage may have been received, but to the discretionary power, given by the law to the Officers of the Customs, of determining, in the first instance, whether any damage does in truth exist. Their Lordships are advised, that such preliminary discretion does rest with the officers, and they have accordingly directed me to communicate this opinion to you, for your information, and for that of other parties, who have joined with you in the memorial.

I am, Gentlemen,

Your obedient servant,

(Signed) J. D. HUME.

WOOTTON BASSETT.

Wootton Bassett Great Monthly Market, on Tuesday Dec. 12, was exceedingly well attended by agriculturists and graziers, and much business was transacted. There were—beasts 452, sheep 580, pigs 277, horses 30: quotations as last month. The annual cattle show took place the same day; and it is evident, from the determination of the neighbouring noblemen, gentlemen, and agriculturists to support it, that it will continue to be prosperous. A very superior selection of fat stock was submitted for the inspection and decision of the judges (Mr. Wm. Baker, of Foxley, Mr. Wm. Church, of Burbage, and Mr. Wm. Poulton, of Cricklade), who awarded the premiums, and which were presented after dinner by the president, to the following persons:—

	£	s.	d.
Mr. Bryan Herring, of Chilton, for the best bull, cow, and offspring.....	5	0	0
Mr. William Lyne, of Malmesbury, for the best fat ox.....	5	0	0
Oliver Codrington, Esq., of Wroughton, for the second best fat ox.....	3	0	0
Mr. Thomas Wiltshire, of South Crook, for the best fat cow.....	5	0	0
Mr. Thomas Young, of Buston, for the second best fat cow.....	3	0	0
Mr. James Archer, of Little Park, for a good fat cow, a bounty of.....	2	0	0
Mr. Thomas Young, of Bushton, for the best pen of fat sheep, of the Langwood breed, a premium of.....	2	0	0
Mr. Thomas Young, of Bushton, for the best fat pig (breeder and fatter).....	2	0	0
Mr. Thomas Kinchin, of Lydiard Tregoze, for the second best fat pig (breeder and fatter).....	1	0	0
Mr. J. Y. R. Sheldon, of Wootton Bassett, for the best fat pig of his own grazing.....	2	0	0
Mr. Thomas Warman, of Wootton Bassett, for the second best fat pig of his own grazing...	1	0	0

EXTRA STOCK.

Mr. James Archer, of Wootton Bassett, for a fat cow.....	1	0	0
Mr. John Large, of Lyneham, for a fat cow ..	1	0	0
Ditto, for a grazing heifer.....	0	10	0
Mr. Thomas Reeves, of Catmarsh, for a grazing cow, bred by himself.....	1	0	0
Mr. Henry Reeves, of Liddington, for a grazing cow.....	1	0	0
Mr. Cornelius Bradford, of Lydiard Tregoze, for a grazing cow.....	1	0	0
Mr. James Archer, of Little Park, for two milch cows, bred by himself.....	1	10	0
Mr. Thomas Warman, of Wootton Bassett, for a two-year-old heifer, in milk.....	1	0	0
Mr. Henry Reeves, of Liddington, for a dairy cow.....	1	0	0
Mr. James Archer, of Little Park, for three heifers, under 36 months.....	0	10	0
Ditto, for four calves under 11 months.....	0	10	0
Mr. James Hathway, of Fokenham, for two heifers of 20 months.....	0	10	0
Ditto, for a two-year-old cart colt.....	1	0	0
Wm. James Sadler, Esq., of Bentham, for two yearling heifers.....	0	10	0
Bryan Herring, of Chilton, for three heifers under 22 months.....	1	0	0
Wm. Smith, of Grittenham, for two three-year old heifers.....	0	10	0
Richard Canning, of Vastern, for a three-year-old nag colt.....	1	0	0
Henry James, of Moudon, for a fat pig of perfect symmetry.....	0	10	0
John Brown, of Ufcot, for 10 fat Southdown sheep.....	1	6	0

CHELMSFORD AND ESSEX AGRICULTURAL SOCIETY.

This Society now consists of upwards of 300 members. The Society has had two shows in each year, and established a wool fair, and the heavy expenses attendant on forming and carrying out the objects of the society have been paid out of the annual subscriptions, without any fund having been established by donations or otherwise, at the first formation. But the committee being anxious to promote the general good, and the improvement of the breed of stock in the county, strongly recommend the establishment of a fund distinct from the annual subscriptions. The wool fair has been attended with great success, and wool of home growth, to the amount of 10,000*l.* was sold at the fair last year in less than twelve hours.

The president, for the year commencing 1st June, 1837, is Lord Rayleigh. The vice-presidents are—Lord Petre, Lord Western, Sir J. T. Tyrell, Bart., M.P., T. B. Lennard, Esq., T. W. Bramston, Esq., M.P., J. J. Tufnell, Esq., J. Disney, Esq., J. Round, Esq., M.P., and O. Hanbury, Esq. The treasurer is T. Greenwood, Esq.; the honorary secretary, H. S. Gilson, Esq. The committee consists of 22 members.

On Friday, Dec. 8, the annual cattle show and distribution of prizes to deserving labourers and servants took place in a field adjoining Duke-street, kindly lent for the occasion, as last year, by G. A. Gepp, Esq. Besides the stock for which prizes were awarded, the judges noticed 10 Highland Scots, the property of Mr. Wm. Page, and highly commended them; they were consigned to Mr. J. Mason. The judges also recommended six shearing Downs, the property of E. G. Barnard, Esq., M.P., of Gosfield Hall; they were consigned to Mr. Wm. Steele.

A waggon was placed in the field for the reception of the noble president, and about two o'clock his lordship entered it, accompanied by several gentlemen, and distributed the rewards to the labourers and servants.

THE DINNER.

At 4 o'clock about 120 gentlemen sat down to a sumptuous dinner, served in the Assembly Room of the Shire Hall. Lord Rayleigh in the chair.

On the removal of the cloth, his lordship proposed "The Queen." (*Loud cheering.*)

THE PRESIDENT. I will now propose as a toast, "Success to the Chelmsford and Essex Agricultural Society." It has been usual, when this toast has been given, for the president of the year to enter somewhat into details, and give you a speech upon it; but I confess I am one who is not fond of long speeches. At the wool fair, owing to the great distress at that time among the manufacturing interest, and the little call for manufactures, good wool did not reach any thing like the price of the preceding year: it was at least one-third less, therefore many sales were not effected. There was a difference of opinion as to whether it was advisable to retain the wool, or to take the price of the day; some gentlemen acted on one opinion, and others on the other. The market fluctuated, and again receded; and it is now a little better. After that meeting it was my duty to attend the meetings for ploughing in several of the subdivisions. There was one at Witham, another at Writtle, and another at Sandon. At Witham it was a first attempt, but it was so favourable that the committee determined that it should be annual; and in consequence of the great number of subscriptions of that day, it is to be permitted in that district to have rewards for deserving labourers and servants. (*Applause.*) So that Witham forms a connecting branch with Chelmsford, as Dunmow does with Saffron Walden. It appears that when the Society was first formed, there was no amount of money contributed as donations, and the prizes have been offered as the annual subscriptions. The consequence is, that the society has been in debt ever since its commencement (*hear, hear*), and has felt its energies cramped by the want of a little surplus fund. The report, therefore, suggests that the gentlemen of the county, who are

friends to the society, be invited to subscribe something to a donation fund, which may enable the society to be in advance. (*Applause.*) This was canvassed at the last quarterly meeting on Monday, when the committee and other members present determined that I should mention it on the present occasion. Mr. Bramston said, it was no use to mention it without seeing something commenced; he, therefore, gave 10*l.* (*Great Applause.*) This was taken up by Mr. Houblon, who put his name down for 5*l.* (*Renewed applause.*) I mention this that those who are desirous to encourage it, may pay their money to the treasurer, or at the bank in this town. Having made these observations, I beg to propose—"Increased success to the Chelmsford and Essex Agricultural Society." (*Great applause.*) Mr. GILSON (the honorary secretary) then distributed the prizes as follows:—

STOCK.

OXEN.

To the owner of the best ox of any breed, fattened upon the premises of the person showing the same, 3*l.*

Mr. Thos. Wall Crooks, of Broomfield.—A shorthorn ox, 3 years old; fed on grass, hay, meal, turnips and mangel—travelled two miles.

This superior animal was an undoubted proof of the possibility of fattening without the use of oilcake or linseed.

To the owner of the second best ox of any breed, fattened, &c., 2*l.*

C. Comyns Parker, Esq., of Woodham Mortimer.—A Highland ox, 4 years old; fed on turnips, hay, and cake—travelled seven miles.

Thomas William Bramston, Esq. shewed in this class a Highland Scot, 3 years old.

To the owner of the best ox fattened and bred on the premises, &c., 1*l.* 10*s.*

No entry.

To the owner of the best bullock, fattened upon the premises, &c., and not having been fed on oil cake, 2*l.*

Mr. T. Wall Crooks.—A short-horn ox, 3 years old; fed on grass, meal, turnips, and mangel.

R. C. Hazelfoot, Esq. showed two West Highlanders; and C. Comyns Parker a Highlander 4 years old.

HEIFERS.

To the owner of the best heifer, not having had more than one calf, fattened, &c., and bred by the owner, 2*l.*

T. W. Bramston, Esq.—A Durham, 3 years old; fed on Swedes, meal, and cakes—travelled six miles.

A very handsome animal, beautifully marked, and of fine symmetry.

Mr. James Malden, of Dengie Hall, showed a home-bred heifer, 3 years and 7 months old; sold to Mr. Orton, Chelmsford, for 23*l.*, laid to weigh about 95 stone; and Mr. T. W. Crooks, a shorthorn, 18 months old.

To the owner of the best heifer, (not having had more than one calf,) fattened, &c., without oil cake, &c., 2*l.*

Mr. T. W. Crooks, a short-horn, 18 months old; not had a calf—fed on grass, meal, turnips, and mangel.

Mr. John Cousins, of Terling, the other competitor, showed a 3 years old Yorkshire heifer.

To the owner of the best fat heifer, fattened on the premises, &c., and not having had more than one calf, 1*l.* 10*s.*

Mr. T. W. Crooks showed a half-bred heifer, 18 months old, which was highly commended by the judges, but deemed not to be qualified.—Much difference of opinion prevailed among the judges as to the weight of this animal, but it was admitted by all to be the best of its age ever shown, and Mr. Crooks refused 8*d.* per lb. which was offered for it.

The prize was not awarded.

Mr. John Cousins.—A yearling short-horn; fed on mangel, grass, and a very little corn—travelled eight miles.

SHEEP.

To the owner of the best pen of 6 shearing wether fat sheep, 2*l.*

Mr. John Brewitt, of Wickford.—Six half-bred Kent and Leicester wethers, 18 months old; fed on corn and grass, and bred by owner.—Sold to Mr. Watts of Ray-

leigh, at 70*s.* per head, much admired for symmetry and length of wool.

To the owner of the second best ditto, 1*l.* 1*s.*

E. G. Barnard, Esq., M.P., of Gosfield Hall.—Six shearing South-downs; fed on coleseed, Swedish turnips, and a pint of corn per day; no cake.—Bred by owner.

C. Comyns Parker, Esq., Mr. John Cousins, and Mr. T. W. Crooks, also showed in this class.—Six half-bred Down and Leicester, shown by the latter, were highly commended by the judges.

To the owner of the best pen of four fat sheep, bred by the owner, and never having had corn, seed or cake, 2*l.*

Mr. T. W. Crooks.—South-down wethers, fed on grass and hay.

To the second best ditto, 1*l.* 1*s.*

T. W. Bramston, Esq.—Fat Down wethers, 3 years old, fed on grass, hay, and turnips.—All sold to butchers in the neighbourhood.

C. C. Parker, Esq., showed four shearing Down wethers, and Mr. William Gale, of Farnbridge Hall, four Kent wethers, in this class.

To the owner of the best pen of four fat wethers, two years old and upwards, fed without cake, and bred and fed by the owner, 2*l.*

T. W. Bramston, Esq.—Four Down wethers, 2 years old, fed on corn, turnips, and hay. There was no competition for this prize.

To the second best ditto, 1*l.* 1*s.*

There was an entry of four Kent wethers, 2 years old, by Mr. W. Gale, but the sheep were not sent.

SWINE.

To the owner and breeder of the best fat hog, under 12 months of age, 1*l.*

T. W. Bramston, Esq.—A Suffolk hog, 44 weeks old, fed on barley meal.

10*s.* to C. C. Parker, Esq., for a Neapolitan pig, 34 weeks old, fed on barley meal seven weeks.

JUDGES.—Mr. Henry Cleeve, Rettendon; Mr. William Hutley, Witham; and Mr. Henry Barwell, Witham.

AGRICULTURAL ROOTS.

Produced by the grower, and taken from the same field.
The 10 best roots of mangel wurzel, 1*l.*

Mr. James Grove, of Great Baddow.

The second best ditto, 10*s.*

Sir J. T. Tyrell, Bart. (yellow globe.)

Mr. Wm. Yeomans, of Toppinghoe Hall, showed some fine roots of orange mangel, Sir J. T. Tyrell, long red, and Mr. Samuel Gooch, Sandon, ten of the globe.

For the 10 best roots of Swedish turnips, 1*l.*

Mr. R. Baker, of Writtle, (purple tops.)

For the second best ditto, 10*s.*

Mr. C. Matson, Great Baddow Park.

Messrs. Thomas Beaumont Hudson, of Barling, H. Cleave, Samuel Gooch, James Groves, I. Belcher, T. W. Crooks, T. Brewitt, and E. G. Barnard, Esq., also showed Swedes.

For the 10 best roots of other turnips, 1*l.*

Mr. Thomas Speakman, of Fairstead, (white.)

For the second best ditto, 10*s.*

Sir J. T. Tyrell, (green round.)

The competitors were E. G. Barnard, Esq., (white), Mr. R. Baker, (white), S. Knipe, Esq., (green and red round), Mr. James Grove, (white), and Mr. I. Belcher, (white).

For the 5 best cattle cabbages, 1*l.*

Mr. James Grove, (drum head.)

For the second best ditto, 10*s.*

Sir J. T. Tyrell.

Mr. Samuel Gooch showed some thousand heads.

JUDGES.—Mr. William Crush, Chignall; Mr. Joseph Coverdale, Ingatestone; and Mr. John Brewitt, Wickford.

EXTRA FAT STOCK.

Right Hon. Lord Western.—A 5 years old Devon cow, bred by his lordship, had two calves. Highly commended by the judges for smallness of bone and fine symmetry.

Mr. T. Bridge, Buttsbury.—A beautiful Hereford heifer. Sold to Mr. T. W. Crooks, at 32*l.*

Mr. Wm. Page, Burnham.—Ten extraordinary Aberdeen Scots. These attracted much attention, and it was generally admitted that they could not be surpassed. They had been fed on cake only a part of the summer, but were computed to weigh upon an average 115 stone. Two of them were laid at 125 stone. Consigned to Mr. J. Mason, and sold as under:—

1 to Mr. Cracknell, Steeple, for	£32
1 to Mr. Mascal, Tillingham	32
1 to Messrs. Wade and Finch, Maldon ..	32
1 to Mr. Lockwood, Stanway	29
1 to Mr. Bear, Colchester	27
1 to Mr. Isitt, ditto	28
1 to Mr. Croxon, Purleigh	24

Mr. Charles Page, Southminster.—Two very superior West Highland Scots. Consigned to Mr. J. Mason, by whom one was sold to Mr. Isitt, of Colchester, at 28*l.*, the other to Mr. Beard, Rochford, at 24*l.*

C. Comyns Parker, Esq.—Five good Highland Scots. A pair sold at 45*l.* Consigned to Mr. J. Mason. One sold to Mr. Knightbridge, stock, at 21*l.*, and another to Mr. Steel, of Terling, at 22*l.*

Mr. John Marriage, Barns, Springfield.—Six good Highland Scots, and four polled galloways.

Mr. John Marriage, Broomfield.—A pair of curious Durham heifers, 4 years old, never had a calf; much admired for quality and symmetry. Bought by Mr. Davis, and Mr. Robert Butcher, of Chelmsford.

Mr. Jeremiah Pledger, Little Baddow.—Four very useful short-horn heifers. Consigned to Mr. J. Mason, for the London markets.

Mr. Flory, Danbury.—Five very good heifers, fed on Swedes and cake, fat and fit for the butcher.

Mr. Philip Dowsett, Waltham.—A lot of six excellent Devons.

Mr. S. Blyth, Wigborough.—Four West Highland Scots, fat and of good quality. Grass-fed. Two sold.

Mr. Thomas Quilter, Little Waltham.—Two fine South Wales beasts.

Mr. John Mayhew, Baddow.—Three North Wales beasts.

Mr. Messent, Bocking.—A lot of superior North Wales runts—had not been stalled, but fed on grass and meal three times a day. Useful beef.

Mr. William Clarke, Norton Hall.—A short-horned heifer. Sold by Mr. Mason to Mr. Drake, of Chelmsford.

Mr. Potter, of Barton Hall, Great Stambridge.—A large calf, weighing about 36 stone. Had had nothing but milk and chalk. 8*l.* 10*s.* refused.

FAT SHEEP.

E. G. Barnard, Esq.—A pen of six shearing down wethers, which were highly commended by the judges, and generally admired. Consigned to Mr. William Steele.

Mr. Thomas Speakman, Fairsted Lodge.—An extraordinary half-bred Down and Kent wether (fat) sheep, two years and eight months old, fed on grass, hay, and peas, bred by the owner. Supposed to weigh 20 stone.

Mr. Philip Dowsett.—A score of four-toothed Downs. Mr. Kilworth, Canewdon.—A pair of extraordinary Kent ewes, sold at 52*s.* per head.

SWINE.

Thomas Greenwood, Esq.—An Essex half-black fat sow, for which 16*l.* was asked; said to weigh 70 stone. Sold for 13*l.*

Sir J. T. Tyrell.—Two curious pigs, of the wild breed.

LEAN STOCK.

The show of lean beasts was the largest we have ever seen here on such an occasion, and amongst which were about 100 Scots, shown by Mr. Rudd and Mr. Wood. Mr. Bridge, of Stock, purchased 22 of the polled Scots, at 10*l.* a piece. A great many Welsh beasts were sold at prices considered to be very low.

Mr. William Clarke, Norton Hall, sent ten very fresh Welsh beasts—sold by Mr. J. Mason to John

Cutts, Esq. for Beeches Farm, Weatherfield, at 9*l.* 10*s.* each.

Mrs. Baker, Little Baddow.—Four good South Wales, bullocks.

The show of stock sheep was small, and the trade for them dull.

J. J. TUFNELL, Esq. in an appropriate speech proposed the health of the noble chairman—Lord Rayleigh. (*Loud cheers.*)

Lord RAYLEIGH returned thanks, offering some valuable observations upon the beneficial operations of the new poor law.

The PRESIDENT proposed the health of the High Sheriff. (*Loud cheers.*)

The HIGH SHERIFF returned thanks.

Toast—"The Lord-lieutenant." (*Cheers.*)

The PRESIDENT.—Before I proceed to another toast, I beg to draw your attention to one of the vice-presidents, whose name has not been mentioned; but I do consider that he is so distinguished as an agriculturist in this county, and the observations he has made during his long life have been so beneficial to agriculture, that I should be sorry if any thing from him were to pass unnoticed. I have received a letter from Lord Western to-day, which his lordship sent with his stock, and though more properly it should come before the Committee, I should like to read it to you. You are aware that a very beautiful Devon heifer, belonging to his lordship, was exhibited to-day, which, for breeding, surpassed every thing I before saw, and on this his lordship says—"I send some stock extra, of which I send you an account:—A fat Devon cow is excluded, because she has had more than one calf. I beg to offer an opinion of this restriction: if the heifer is a superior animal, it should be rather advisable to encourage the breeding from her than her slaughter. After she has had many fine calves, and proved a constitution to fatten readily, she has then surely evinced that quality which it ought to be our object to encourage." It is for the committee to take this into consideration, and determine whether they will make any alteration, and this letter will be laid before them. His lordship then says—"I send five stock ewes as a specimen of a breeding flock, formed by a cross of the Merino with various other breeds." Lord Western is at this moment very anxious on this subject. He has some Leicesters and some Kents, and he is making a cross with the Merinos, thinking that he shall introduce a new breed to the country; and I am sure that any person visiting his farm will be gratified by viewing the success with which it has been attended; but whether it would be the same with another person is matter for consideration. His lordship also sends three shear-sheep, and he says "They are three shear-sheep, never having been clipped till after June; their fleeces were weighed, and one weighed 27*lbs.* and the other 30*lbs.* in the quantity." They are exhibited as curiosities, and at the same time evincing great powers of constitution in the breed to sustain such a fleece, and to get fat; for of course they must have been fat at shearing time, to become so very fat now." His lordship also sends us five cabbages, and says, that in deciding on the merit of cabbages he thinks they should be weighed. Now Lord Western having been so kind as to send so much extra stock, and favouring us with his observations to be laid before the Committee, it was only paying him a proper respect to read his letter. We have already drank his health as one of the vice-presidents, therefore, I will not trouble you further on this occasion. (*Cheers.*)

Mr. J. J. TUFNELL.—We have had the pleasure of drinking several toasts, arising out of subjects connected with this Society, and I have now one to propose intimately connected with its interests, and which I am sure you will receive with as much respect as any that has gone before it. It is the health of our worthy Secretary, Mr. Gilson. (*Loud and long continued cheers.*)

Mr. H. S. GILSON, the Secretary, then rose, and was received with loud cheers. He said—if on former occasions I felt a difficulty and diffidence in rising to

return thanks for an honour received at your hands, and have been unable to express what I wished, I must honestly confess that as this Society increases in years, my difficulty in acknowledging your kindness increases. (*Cheers.*) In standing up to return thanks for the manner in which you have been pleased to drink my health, I assure you that the introduction of my name by such a person as Mr. Tufnell, with the warm expressions he has used, and your reception of them, would be amply sufficient to repay me if the Society had existed ten years, and that my services had been given during that time gratuitously. (*Cheers.*) It would perhaps be necessary in my official capacity that I should give you some little history of what has taken place since we last met, but for the circumstance of there having been a previous meeting, which is called the business meeting, when the report is brought forward, and our accounts are settled. But I may be allowed to tell you, that since we last met we have at different meetings had the honour to elect fifty-nine new members. (*Cheers.*) In that access of strength I have much pleasure in stating that we include the Hon. Misses Strutt, and other ladies of the neighbourhood of Witham. (*Much cheering.*) They have enrolled their names for the purpose of assisting to carry on the objects of the Society, to encourage and promote the welfare of the labouring classes and servants. (*Cheers.*) In consequence of a recommendation received by the Committee we appointed Witham as a place for a ploughing match, and from the encouragement received from Lord Western, Lord Rayleigh, Mr. Hanbury, and indeed I may say from every family in the neighbourhood, there were between six and seven hundred persons on the ground, and it is now made an annual meeting. (*Cheers.*) I will now only draw your attention to one or two more subjects. You will observe that through the liberality of a number of gentlemen a premium is offered for the best bull. It is one of considerable importance, considering the little going on in the county of Essex with regard to the breeding of stock, and I believe, from reports received, the premium will extend to twenty guineas. There is a prize of five sovereigns offered by Mr. Bramston for the best pair of short-horn heifers. There is another prize in which an alteration has taken place: the prize of 5*l.* will be given for three yearling heifers instead of 5*l.* 5*s.*, to be of the same breed, and the second best to have 2*l.* The importance of these meetings with regard to breeding is worthy of your notice, for there are other parts of the kingdom quite as alive to improvement in the breed of stock as we are, and perhaps more so. When a man introduces on an afternoon like this any thing like figures, he may be considered troublesome; but I will venture to read you a short statistical account which I have received, of the number of beasts, and the quantity of meat, carried into London by the steamers from Scotland, and from which you will find that you have much to contend against, and that you must breed at home, as well as buy lean stock to fatten, for the London market. Mr. Gilson then read the following statement:—

Table shewing the number of cattle, sheep, horses, and pigs, and barrels bulk of meat shipped from Dundee, Aberdeen, Leith, and Inverness, from the 31st of May, 1836, to the 31st May, 1837, viz.:—

FROM DUNDEE.	Cattle.	Sheep.	Lambs.	Horses.	Pigs.
Per smack from London	46	80			
Per steam ship ditto....	1474	2010	3466	42	..
Ditto from Hull.....	280	302	50	22	..
	1800	2392	3510	64	
From Leith for London	249	3194	4059	67	
From ditto for Hull....	3		..	16	
	252	3196	4059	83	
From Aberdeen.....	7443	945	..	..	2162
From Inverness 7 from 29th Sept. 1836, to 31st May, 1837—					
Per steam vessels.....	41	80			
Per sailing vessels,...	70	..			
	111	80			

MEAT.

From Dundee.... 940 barrels bulk
Leith.....8998 ditto
Aberdeen, 1483 ditto, and 215 carcasses of mutton and
and 300 tons of pickled pork.

Inverness.. 400 ditto

11,621

at 2½ cwt. per barrel bulk, are
equal to 29,052½ cwt.

Now, you will perceive that this large importation is only from three ports, and you have besides to contend with the rest of the ports of Scotland and those of Ireland, which must eventually materially affect the London market. (*Hear, hear.*) I return my sincere thanks to you all for the honour I have this day received, and in former years. (*Much cheering.*)

Mr. A. HOUBLON proposed the health of the Successful Candidates. (*Cheers.*)

Mr. O. HANBURY, in returning thanks, observed that the heifer produced by Lord Western was the best he ever saw.

Mr. C. C. PARKER.—I sincerely thank you for the compliment of drinking my health, but, gratifying as it is to obtain a prize, it would have been more gratifying to me if I had seen treble the number of things superior to my own in the field. (*Cheers.*) As a large occupier I have felt it my duty always to send something of this description, and I do not think I can better appropriate the prize I have received than in contributing it to the surplus fund; I therefore beg Mr. Gilson to put down my name for 5*l.* (*Much cheering.*)

Mr. R. C. BAKER.—I beg leave to thank you for the honour you have done us in drinking our healths; and in advertising to a point connected with this Society, I would allude to the observation of the gentleman who has said he was sorry to see so little competition in fat stock to-day. We cannot but regret that circumstance but you will all allow that a good beginning makes a good ending; and if we produce good roots for the perfection of stock, superior stock will be sure to follow. (*Hear.*) The producing of good roots I consider the main point of grazing; for if the farmer can produce sufficient food, it will enable him to enhance the value of his farm, and he will need little assistance from the auxiliary aid of oil cake, to the use of which you know I am an enemy, as I consider it injurious to our interests. (*Hear, hear.*) I trust you will allow me to explain myself on this subject: I consider it injurious in this point of view—we as farmers have endeavoured to maintain a prohibition of foreign corn, knowing we cannot compete with a foreigner if he is allowed to bring in corn grown at a cheaper rate than we can grow it; but there are a great many who think that by introducing oil cake they are doing no injury. Now I contend that the introduction of oil cake, whereby we produce more meat on any animal by means of a foreign supply, is equivalent to importing so much beef into the country. (*Hear, hear.*) I contend that by our own supplies, and our own means, we could meet all that is required by the grazier and the consumer. Mr. Gilson has alluded to the great quantity of meat imported to this country from the ports of Scotland, and when we look to that account I say it is a most important point for consideration, because at the present moment, though the price of meat is not so high as it was a few months since, yet still meat bears something like a remunerating price, and has done so in the face of all this great supply. How are we to account for this? At the present moment there is a great depression in barley—there is a decrease in the quantity of barley consumed—and I should say that the population are more sober in their habits—that great numbers may in fact be tee-totalers, and have taken to meat, for they must have something strengthening to subsist on. There were one or two observations made in the field to-day, to which I wish to refer. Some persons said the roots I produced were from my garden. Now I never did produce a root at this show unless I took it from where there was an acre of the same growth produced in the regular course of agriculture. (*Cheers.*) I consider that if I were to produce here nine or ten roots which had been grown, with peculiar

care and attention, in my garden, it would be equivalent to a public life. (*Cheers.*) I think the rules of our Society are rather defective on this point; and as Lord Braybrooke has offered a cup to be given as a prize next year, I think there should be some prize awarded to the person who produces the best acre of cattle food of any description. The farmers would then produce something worthy of notice, and we should see who are the best cultivators. When first I had the honour of meeting you in this room it was filled to an extent I have never since witnessed. At that time there was great depression in the farmers. We had had a long succession of bad seasons up to 1831; and farming was then at a lower ebb than it ever had been, or, I trust, ever will be again. (*Cheers.*) Since that time an improvement has taken place, and the farmers are now in a better situation, though not in that state of prosperity which some of our friends may suppose. We cannot think, after a 20 years' peace, and when 16 years of that period have been spent in combatting with the times, and in combatting with the Government on the subject of the introduction of corn—we cannot think, I say, though we may have had crops such as were never known before for five consecutive seasons, that we are now in a prosperous state. The late harvest will not prove so abundant as some persons anticipated, and the farmers will find their crops deficient as compared with preceding years. The farmer, in fact, is not in that state of prosperity, which some assert he is in at the present moment. There is now such a competition for farms, amongst young men who are anxious to go into business, and some who view farming as a pleasure, as would lead the landed interest to think agriculture a different thing from what it really is; but I would caution gentlemen who have farms to let, to look to the tenant rather than the amount of rent they are to receive. If we go back to the period of the war, we shall find that labour has not decreased more than 20 per cent. since that time. In rent and tithe—and I speak from my calculations upon 50 farms—the reduction is 33 per cent., the reduction in labour, as I said, being 20. Now if you look to the returns for the seven years preceding the close of the war, and the average returns of Mark-lane for seven years past, you will find that there is nearly 40 per cent. reduction in the value of the farmer's produce. How is this to be met? Can the farmer with a depression of 35 or 40 per cent. on his produce, and a depression of only 20 or 30 per cent. on his expenses, carry on his business and meet his outgoings! I will tell you how it is. I consider there have been great improvements in farming—I contend that the system of farming has been so much improved by science, that the farmer now produces a fifth more from his land—that there are as many sheep again kept in the country, and as much stock again reared—that there is a much greater quantity of artificial food raised, and that a general improvement in agriculture has been effected. Then some reduction has taken place from the new poor-law, and a further reduction will be made through the same measure. I know the labour which we before paid for in the poor-rates, and which was then squandered away, is now made serviceable. The number of labourers increase; I find that I employ more men than I did—why I do not know, but the reason seems to be, if I get a labourer on the farm I cannot get him off again. Before I could not get him on, or if I did, he was sure to do something to get himself discharged; but now he exerts himself to retain his employment, and therefore I have the benefit of that labour which I hope I shall be able to turn to beneficial account. And I would only ask if societies like this have not done something towards the general benefit: I will only ask you whether a combination of talent does not produce knowledge, and every one knows knowledge is power. (*Cheers.*) I would ask whether emulation does not produce competition, and every one knows that competition will have its results, and will produce something beneficial to us as a community. (*Cheers.*) And does not the way in which landlord, tenant, and labourer are thus brought together, do something?—Does it not make things go on

smoother amongst us? Is there not now a good principle extending from the bottom to the top of the agricultural community of "Live and let live," and are we not to attribute it to societies like this? (*Loud cheers.*) Some gentlemen have wished me to state that they think the premiums are too small to produce superior stock at our show. If they have good stock the say they can make better of it—they can take it to Smithfield. Now I think the gentlemen who are most forward in making this remark should be also most forward to increase their subscriptions. (*Cheers.*) There is an old maxim—"From nothing, nothing comes," and the gentlemen who are most clamorous for higher premiums, ought to come forward and increase them. (*Cheers.*) I return you my thanks for your attention, and I beg to apologise for detaining you so long. (*Cheers.*)

Mr. GILSON announced that Mr. J. Bullock had given 5*l.* to the donation fund.

The PRESIDENT proposed the health of those gentlemen who have competed this day, and not been so fortunate as to gain prizes. (*Cheers.*)

Mr. GILSON stated that Mr. Thomas Brewitt and Mr. R. Baker had each presented a donation of 5*l.*

The PRESIDENT proposed the health of the Rev. Mr. Mildmay. (*Much cheering.*)

The Rev. C. A. St. JOHN MILD MAY returned thanks.

Several other toasts were drunk, and the company separated about 9 o'clock.

HOLKHAM ANNUAL CATTLE SALE.—We have so often had occasion to record the successful exertions of the noble owner of Holkham, in the cause of agricultural improvement, that nothing very new in the descriptive way on this subject is to be expected at our hands; and yet every different exhibition of stock, held at this celebrated place, does nevertheless furnish some novelty to the attentive and intelligent observer; certainly none more than the one we are now about to describe, and which was held at the Longlands Farm (in the Park) on Wednesday, the 13th inst. Amongst the stock exhibited for sale were four three-year old Devon bullocks, which were much and very deservedly admired for their early maturity, great beauty, and symmetry of form. Perhaps a larger proportion of meat, and that of the finest quality, it would be impossible to produce on comparatively so small a frame. But the best possible test of their merits was that proclaimed by Mr. Auctioneer Beck, at each fall of his hammer, the four beasts averaging 36*l.* each. This, in his own words, is a knock-down argument; a fair settler of all doubt and scepticism on the subject; and no doubt, to his mind, worth all the logic that could be advanced on such an occasion. We had heard much of the improved and improving condition of the Holkham Devons. Within a few months we had an opportunity of inspecting the native breed of this admired stock in their own county (the neighbourhood of Barnstaple); but, however much to be admired as a whole, we certainly saw nothing there to compare with the North Devons at and around Holkham. This fully bears out the opinion of Lord Spencer, who is said to have declared they might compete with any breed of any county, an opinion the more valuable as coming from an excellent judge, and a short-horn breeder. The other oxen sold as high as 34*l.* a piece. The two-shear Down wethers, which were splendid specimens of that valuable breed of sheep, fetched 4*l.* 8*s.* each. The shearlings of the same breed 3*l.* 6*s.* The 20 pigs, which attracted much at-

tention, and very deservedly so, for they were models of perfection in their way, fetched 5*l.* 6*s.* 8*d.* each on the average. The company was unusually numerous, at the head of whom was the noble proprietor, the Earl of Leicester, who we rejoiced to see in such excellent health and spirits. His amiable Countess, too, and family, with a number of distinguished guests, honoured the sale with their presence; and each and all appeared highly to enjoy the bustle and novelty of the scene. Amongst those present we noticed Lord Waterpark, the Hon. Wenman and William Coke, a son of Sir Jacob Astley, Sir Roger Marten, Dennis Gunton, Esq., sen. and jun., B. Gurdon, Esq., — Parmeter, Esq., Messrs. Sparham, S. and H. Abbott, J. and C. Overman, H. M. Waller, Ebbetts, Holland, J. Beck, Middleton, Hudson, Wiseman, Burcham, Sherringham, Everett, Algar, &c. &c. —*Bury Post.*

THE BRISTOL AGRICULTURAL SOCIETY, held its Fifth Annual Show on Wednesday, Dec. 13, at the Cattle Market, which was numerously attended, under the presidency of W. Miles, Esq., M.P. There was no great quantity of fine ox beef, but some remarkably fat cows and heifers, sent by the President, and G. Worrall, Esq., of Frenchay. There were also some fine fat sheep, and a singularly fat pig, by Rice. The company (amongst whom we recognised Mr. Hale, M. P., for Gloucestershire), having assembled up stairs, the report of the committee was read, and some valuable observations delivered by Messrs. G. W. Hall, Mullens, Fyson, Tuckett, Hardwick, Joliffe, and other gentlemen present. A large number of subscribers and friends re-assembled at the Montague at dinner, at which Mr. W. Miles presided. The list of adjudged prizes was read by the president:—

To C. Hardwick, 3 best-bred Heifers, Durd	
ham breed.....	£ 5 0
Ditto, best pen of Breeding Ewes....	3 0
Ditto, Fat Ox, Society's Premium ...	6 0
Ditto, Fat Steers, Ditto	5 0
Ditto, Fat Heifer.....	5 0
Extra Stock	2 0
Wool given by Mr. P. Simmons ..	5 0
Best Short Wool	2 0
	33 0
J. Francomb, best pen 5 Long-wool Ewes ..	5 0
Ditto, Fat Cow	4 0
J. P. Caple, 4 Fat Sheep (Mr. Hale's Pre-	
mium)	3 0
W. Bennett, Bull, Cow, and Offspring	15 0
J. Walker, 3 Heifers for Breeding	4 0
J. Lawrence, Cart Stallion	5 0
James Bartlett—Mare	3 0
W. Coles, Boar and Sow	3 0
Thomas Hardwick, Fat Ox	5 0
George Limbrick, 4 Fat Wethers	3 0
Ditto, Best Ram	2 0
Joel Baber, 4 Fat Ewes	2 0
George Rich, Fat Pig	2 0
Ditto, Extra Stock, Boar	1 0
James Long, Ewes	1 10
R. Joliffe, Steer	3 0
R. Mullens, Ram	1 0

SPADE CULTIVATION. — Mrs. Danby, of Swinton Park, near Masham, has now about twenty labourers employed in clearing and preparing about fifteen or twenty acres of excellent land, at a short distance from her hall, preparatory to letting the same out for spade cultivation in small portions to the neighbouring poor,—*Doncaster Gazette.*

POOR LAWS—IRELAND.

FROM THE MARK LANE EXPRESS.

In our journal of the 4th inst., we offered some remarks on the last report of Mr. Nicholls, upon the establishment of Poor Laws for Ireland, and we now proceed, according to promise, to call attention to the propriety, nay, we should almost say, the *necessity* of granting a sum of money to be expended on public works in that country. The information which has been obtained by means of the Commissioners appointed to enquire into the condition of the labouring classes in Ireland, with reference to the introduction of a poor law, confirms the opinions of the best informed writers upon one most important and material point, namely, that the supply of labour exceeds the demand to an enormous extent. It is true, a difference of opinion does exist as to the actual number of persons out of employment, and therefore bordering upon destitution, but it is admitted by those who take the most moderate estimate of the numbers of the unemployed, that the evil is of such magnitude, as to call for the interference of the legislature, and the introduction of a poor law has been determined upon. According to the plan proposed, accommodation in workhouses will be furnished for 80,000 persons, in which number are, of course, included the old and the impotent. So far as we have been enabled to form an opinion, from the information which we have gathered from various sources, relief to that limited extent will accomplish very little in improving the condition of the destitute in Ireland. It is calculated, however, that only so many will be found willing to undergo the confinement of the workhouse, and therefore the accommodation afforded will suffice. But this is, it seems to us, a strange mode of applying the principle of relief, inasmuch, that all those who are unwilling to go into the workhouse, must continue to suffer the same privations as before the establishment of the poor law. To be effective in its operation, the plan of relief must be such as to enable all who are suffering absolute want, to take advantage of it; and, notwithstanding the opinion expressed by some, that a small number only, as compared with the whole, will accept relief in the workhouses, we feel persuaded that the privations endured by the mass of labourers is such, as will drive them into the workhouses, and that so far from 100 being sufficient, that more than double that number will be found requisite. In furtherance of this view of the subject, it must be borne in mind, that when a *compulsory* payment is levied upon the owners and occupiers of land, there will be less of inclination and ability to make voluntary contributions, so that the means of subsistence which those who refuse the asylum offered in the workhouses now have, will be curtailed if not altogether cut off. If it should turn out that the numbers who are found willing to go into the workhouse does not exceed the estimate made, then the object is but partially achieved, as all who remain out will be in the same, if not in a worse condition than before. If on the other hand great numbers, or the mass of the destitute embrace the offer, there is

then an immense charge saddled upon the land. In making these observations, we would not have it supposed that we are hostile to the establishment of poor laws in Ireland, on the contrary, we are zealous advocates for that measure, but we are at the same time convinced that poor laws alone will not afford relief even to the extent anticipated, and by no means to the extent required. Granting the principle that the people have a clear right to subsistence, that they should not be permitted to perish whilst the soil produces sufficient food for their support, still can that measure be called sound which levies a contribution for the support of thousands of able-bodied labourers without first inquiring if there be not some more effectual mode of relief, some means whereby a channel may be opened for enabling the able-bodied to earn the food they consume? But it is said the owners and occupiers of land will exert *themselves* to devise means for bettering the condition of the working class, they will employ more labourers when they find that they are compelled to support them in idleness. So far as regards the occupiers, it is well known that in the greater part of Ireland the holdings are small, and the occupiers, although styled farmers, but a very slight remove above the labourers. They possess, it is true, some few heads of cattle and a certain number of acres, but the privations they undergo to enable them to pay rent and maintain their position are such as to render them incapable of contributing to a poor-rate to such an amount as would be requisite to afford general relief without running the risk of soon becoming themselves candidates for the workhouse. It may be advanced in answer to this observation, that it is the landlord after all who pays the poor-rate, it is a charge taken into account upon the letting of the land. True, if after the poor-law shall be established all contracts were put an end to, and the whole of the land in Ireland re-let, there could be no doubt but that such would be the case. Let it not, however, be imagined for an instant that an absolute reduction of rent will be made, equivalent to the poor-rate imposed upon the tenants. A poor-law, to be effective, in relieving the existing destitution in Ireland, must maintain in idleness a large mass of able-bodied labourers, but whether with or without a poor law we contend that *the only solid mode of relief will be found in employment*. The working of a coal mine or copper mine, the making a canal, or a road through a district capable of cultivation, but left wild and uncultivated for want of proper means of communication, would produce more permanent benefit than the poor-rate collected over a whole county. It has been often stated that Ireland would benefit much from the introduction of English capital; it is not capital but means of profitably investing it, of which Ireland stands in need. In six years and a-half, ending January 1831, there was transmitted to England a sum of money for investment in government stock to the amount of fourteen millions; a most conclusive answer to the statements about want of capital. Employment must be found for the people, and which can only be obtained by encouraging the investment of capital in the cultivation of the soil, As in this country,

so may it be more truly stated of Ireland, agriculture is the foundation of her wealth. It were better, far better to lay a tax upon the inhabitants, for the purpose of making roads, canals, rendering the rivers suitable for the purposes of navigation, and building wharfs at proper places, thereby affording means for transporting materials and produce with facility, and holding out inducements for the investment of capital, and occasioning a permanent employment for labour. Ireland is a growing mart for English manufactures, to improve the condition of her population is to increase the market for English goods. A sum of money should be cheerfully voted by parliament for the promotion of public works such as we have above enumerated.

The injudicious use of government grants in bygone days may have caused a prejudice against such an application of public money, but the management as well as the proper application of such funds is better understood at the present day. The money should be employed in facilitating communication from the *interior* to the sea-ports. The sea-ports should be the last attended to. Persons will scarcely be found to risk their capital in making roads or canals, the traffic on which must depend upon produce to be raised from land not cultivated. The formation of canals in England has been mainly caused by the previously established trade between some two places which had already risen into importance in consequence of their commerce or manufactures. In such cases the promotion of works of this kind may be safely left to private enterprise, and in the case of sea-ports generally if once a trade be established from the *interior* to the port an outlay for the improvement of the port, will be a safe mode of investment for capital, which will readily be embraced by speculators. The observations addressed by Mr. Featherstone to a committee of the House of Commons, in reference to some improvements made by him in Galway near the Shannon, apply with equal force to many other parts of Ireland; he said, "the oats these lands grow are so very fine and of a rich gold colour, that if we can possibly get them down to the lowlands we sell them freely for seed oats, *but the roads being so bad we put them to the purpose of illicit distillation*." When asked if the roads are not very bad, he said, "*there are no roads at all. I was obliged to take my carts to pieces and carry them on horse-back, and then I made the roads through my part of the mountain*." Again, "the mountain is alluvial land and produces anything; the oats of a beautiful colour and an enormous crop, *but what is the use of it, you cannot send it to market*." Fine land that "will produce anything" uncultivated, thousands of men willing to work but starving for want of employment, and why? because there are no means of bringing the produce to market. The Shannon, the finest river in the British Empire, passing through the centre of Ireland, navigable for 230 miles from the sea, and presenting a length of coast for the purposes of intercourse of 460 miles, except at a few points without the necessary accommodation for water conveyance. For a few thousand pounds says Mr. Mullins, 40 miles of navigation might be gained into

the most inaccessible parts of the county of Roscommon, where agricultural improvement is scarcely known." Afford facilities for the transit of produce; "agricultural improvement" will progress, labourers will obtain employment, and destitution and pauperism will proportionably abate. It has always been our opinion that it is one of the first duties of a government to afford every facility to the employment of labour, from which alone a nation derives wealth. As regards Ireland, our attention has been more particularly directed to this subject by the recent perusal of two little publications from the pen of Mr. Williams, of Dublin, in which the evil consequences arising from the want of, and the immense advantages which must result from, improvement in the land and water communications in Ireland, are set forth in a clear and unanswerable manner. This gentleman has a just claim upon the gratitude of his country for having described her capabilities, and drawn attention to her wants in a very masterly manner, not resting the statements he makes upon his own individual assertion, but giving the remarks of different known individuals who can be referred to, and quoting from authorities which can be relied upon. Mr. Inglis also who took the best means of making himself acquainted with the real situation of Ireland and its inhabitants, gives it as his opinion, that want of employment for her population is the great evil under which Ireland is now suffering. The Chancellor of the Exchequer is an Irishman, but nevertheless let him brave any charge of partiality to his native land, if any should be made, which we think would not, and at once appeal to the House of Commons for a sum of money to be expended upon public works in Ireland. That which is granted to Canada could not be refused to Ireland.

FIELD CARROTS.—The following statement, which we have received from a landowner in this county relative to a crop of field carrots produced at Mossknow, Dumfries-shire, in the autumn of 1837, may, perhaps, tend to make the crop more commonly grown, and particularly when the farmer recollects that besides furnishing a winter luxury for his table, there is no animal in his yard, but delights in, and thrives upon the produce. On the 15th of February last, whilst in progress of planting the first crop of potatoes, a piece of the deepest loam land of the field was selected, and in place of setting potato-cuts, the manure was covered up with a *high ridge*, Altringham carrot seed sown with the hand on the top, and covered in with a rake. The land by actual measurement extended to three-fourths of an imperial acre, and was not more wrought, or better manured, than is usual for potatoes; and in May the crop looked so ill that it was nearly hoed up and replaced by Swedish turnips. It rallied, however, and being twice hand-weeded during summer, was raised on the 7th November, and amounted to thirty full single-horse-carts load of large, clean, well formed carrots, and ten carts load of tops. Each cart is computed to hold ten cwt., which is at the rate of 20 tons to the imperial acre, and valued at the low price of 2s. 6d. per cwt. amounts to the sum of 50*l*. This crop may be considered extraordinary, and capable of being raised only on the best loam land, but after *draining and subsoiling*, which is now becoming so general, there can be no doubt but the best crops of carrots may be raised upon ordinary good land. If the farmer, however, can only produce the one-half of what is stated above, he will pay himself most amply. We believe Mr. Wallace, Townhead of Ayr, raised a similarly good crop of carrots this season.

—*Ayr Advertiser*,

RYE.

The annual Christmas show of fat stock took place here on Wednesday, Dec. 13, when there was an excellent display of both beasts and sheep. The judges were Mr. Putland, of Firlie, Mr. Deer, of Maidstone, and Mr. Hilder, of Ashford. After the show, about 150 agriculturists and others sat down to an excellent dinner at the George Inn, R. C. Pomfret, Esq., in the chair, supported by G. Darby, Esq., M. P., T. L. Hodges, Esq., M. P., T. G. Money Penny, Esq., M. P. Capt. Pateson, David Manser, Tilden Smith, R. Money Penny, Esqrs., &c., &c. After the dinner the list of awards was read as follows:—

FAT BEASTS.—A premium of 8*l*. to the owner of the best ox, worked till November 1, 1836—Mr. Samuel Selmes, Beckley; 5*l*. to the owner of the second best—Mr. Benjamin Blackman, Hove; 6*l*. to the owner of the best steer, under 4 years old, having lived with young stock till November 1, 1836—Mr. John Stonham, Beckley; 6*l*. to the owner of the best cow, 5 years old and upwards, that has reared a calf in 1836—Mr. Tilden Smith, Ewhurst; 4*l*. to the owner of the second best—Mr. Jeremiah Smith, Cadborough, Rye; 6*l*. to the owner of the best open heifer, under 4 years old—Mr. Samuel Selmes, Beckley; 4*l*. to the owner of the second best—Mr. T. C. Langford, Udimore; all the above stock fed without any restriction.

LEAN BEASTS.—A premium of 4*l*. to the owner of the best bull, two years old and upwards—Mr. Thomas Noakes, Warmock; bred by Mr. Farncomb, of Bishopstone; 2*l*. to the owner of the second best—Mr. C. Thorpe, Fairlight; 5*l*. to the owner of the best cow in calf, three years old and upwards—Mr. Putland, Firlie; 3*l*. to the owner of the second best—Mr. Jeremiah Smith, Cadborough; 3*l*. to the owner of the best pair of steers under three years—Mr. Jeremiah Smith, Cadborough; 2*l*. to the owner of the second best—Mr. James Smith, Icklesham; 3*l*. to the owner of the two best heifers in calf, under three years old—Mr. W. Woodhams, Udimore; 2*l*. to the owner of the 2 second best—Mr. C. Thorpe, Fairlight; 2*l*. to the owner of the best pair of steers, under two years old—Mr. Jeremiah Smith, Cadborough; 1*l*. to the owner of the second best; 2*l*. to the owner of the two best heifers, under two years old—Mr. T. C. Langford, Udimore; 1*l*. to the owner of the second best—Mr. Jeremiah Smith, Cadborough. All the above stock fed only with grass, hay, or straw, after the 1st day of May, 1837. 5*l*. to the owner of the best Kent ram, under three years old—Mr. Thomas Bayden, Brookland; 3*l*. to the owner of the second best; 3*l*. to the owner of the best pen of five Kent two lamb ewes—Messrs. Pix, Peasmarsh; 1*l*. to the owner of the second best—Mr. S. Burgess, Lydd; 3*l*. to the owner of the best pen of five Kent one-lamb ewes—Mr. R. Horton, Peasmarsh; 1*l*. to the owner of the second best—Mr. S. Burgess, Lydd; 2*l*. to the owner of the best pen of five Kent ewe tags—Mr. S. Burgess, Lydd; 1*l*. to the owner of the second best—Mr. R. Horton, Peasmarsh; 2*l*. to the owner of the best five Kent two year old wethers—Mr. James Smith, Icklesham; 1*l*. to the owner of the second best—Mr. Thomas Cheeseman, Stone; the above fed on grass only.

A premium of 3*l*. to the owner of the best Down ram, under three years old; 2*l*. to the owner of the second best; 3*l*. to the owner of the best pen of five Down one-lamb ewes, folded to the 1st November, 1837; 1*l*. to the owner of the second best; 2*l*. to the owner of the best pen of five Down wether, two years old, but not three—Mr. Stephen Smith, Robertsbridge; 1*l*. to the owner of the second best—Mr. Tilden Smith, Ewhurst; The Downs fed without restriction.

A premium of 2*l*. to the owner of the best fat sow, that has produced one or more farrows of pigs, two years old or upwards—Mr. E. N. Dawes, Rye; 2*l*. to the owner of the best fat pig, under two years old—Mr. John Woodhams, Udimore; 1*l*. to the owner of the best boar pig, under 12 months old—Mr. James Edmonds, Playden,

LEWES CATTLE SHOW.

PREMIUMS AWARDED.

CLASS I.—The premium of 10*l.* given by the town of Lewes, to the owner of the best ox, five years old or upwards, (bred in Sussex,) and worked regularly in the team until the 1st of October, 1836, to Mr. Thomas Child, bred by himself. The premium of 5*l.* given by the town of Lewes, to the owner of the second best ditto, to Mr. Grantham, bred by Mr. Serle, late of Folkington.

CLASS II.—The premium of 10*l.* given by agriculturists, to the owner of the best ox, five years old or upwards, (bred in Sussex,) and worked regularly in the team until the 1st of October, 1836, to Mr. Thomas Child; the premium of 5*l.* to the owner of the second ditto, to Mr. Grantham, bred by Mr. Serle. [The Chairman said there was a not at the end of the latter two awards stating that oxen shewn in class II, were eligible to compete for prizes in class I, if superior to those fed on cake or corn, and he understood the prizes awarded to Messrs. Child and Grantham were for the same oxen, shewn in both classes.]

CLASS III.—The premium of 5*l.* given by the proprietors of the *Brighton Gazette*, to the owner of the best ox or steer, (bred in Sussex,) under four years old, was not awarded; a steer of Mr. Pagden's was highly commended, but not considered eligible.

CLASS IV.—The premium of 8*l.* given by agriculturists, to the owner of the best cow, four years old or upwards, (bred in Sussex,) that has had and reared a calf in 1836, and not turned off for fattening before 1st of December, 1836, to Mr. J. P. Fuller; bred by Mr. Fuller, sen. The premium of 5*l.* given by agriculturists, to the owner of the second best ditto, to Mr. John King, bred by Mr. Hurst of Eastbourne.

CLASS V.—The premium of 8*l.* given by the town of Lewes, to the owner of the best open heifer, under four years old, (bred in Sussex,) to Mr. George Berry; bred by himself. The premium of 4*l.* given by the town of Lewes, to the owner of the second best ditto, to Mr. Putland, bred by himself.

CLASS VI.—The premium of 10*l.* given by agriculturists, to the owner of the best pen of five Southdown wethers, above two and under three years old, to Mr. John Ellman, bred by himself. The premium of 5*l.* given by agriculturists, to the owner of the second best ditto, was not awarded, there being no competition.

CLASS VII.—The premium of 10*l.* given by the town of Lewes, to the owner of the best pen of five Southdown wethers, under two years old, to Mr. William Arkoll, bred by himself. The premium of 5*l.* given by the town of Lewes, to the owner of the second best ditto, was not awarded, there being no competition.

CLASS VIII.—The premium of 10*l.* given by the right hon. the Earl of Chichester, to the owner of the best pen of five Southdown ewes, three years old or upwards, that have had and reared a lamb in 1837, without any restriction as to feed, to Mr. Thomas Ellman. The premium of 5*l.* given by the Members of the Borough of Lewes, to the owner of the second best ditto, to Mr. Putland, bred by himself. [The Chairman remarked the judges were in some difficulty in deciding this award, for in looking upon these sheep as fat stock, they scarcely thought them entitled to the premium, but it was understood by him (Lord Chichester) and the gentleman to whom he offered the premium, that the sheep were to be considered stock sheep, and as those shown by Mr. Putland, were very good specimens of stock, the prize was given him.]

SUBSOIL PLOUGH.—It is pleasing to notice the interest that is abroad at the present time in regard to the improvement of agricultural implements, which certainly constitutes an important means to assist the farmer in the more complete cultivation of the soil. A meeting took place at Cleugh, in the parish of Johnstone, on Thursday, the 9th Nov. ult., to witness the success of

the Subsoil Plough. Among those present were Mr. Hope Johnstone, Mrs. Hope Johnstone, and the family at Raehills, Mr. Stewart, Hillside, Mr. Hamilton, Torthorwald, and the leading farmers of the district. There were two subsoil ploughs on the field; one the property of Mr. Hope Johnstone, ordered from the museum of Drummond and Son, Stirling; the other belonging to Mr. Gillespie, Annanbank, made by Mr. Hamilton, Torthorwald, and exhibited by him at the last agricultural show at Dumfries. In each plough there were four horses abreast, and the depth was from 18 to 20 inches. The work was admirably executed, and all present were convinced of the utility of the invention. It struck us that the last-mentioned plough was steadier in the ground, of more useful proportions, and consequently easier for both horses and men. Mr. Hope Johnstone kindly offered his own for the use of his tenantry; and after Mr. Rogerson, Cleugh, had finished, it was used at Panlands and Kirkbank. The same gentleman has ordered another to be made, and they promise to be in general use in a short time. This is only one feature of the operations at present progressing here; for, a system of surface draining has been for some time in action in the parish, and at present there are a great many men at this employment. Our vale, which in former days presented only a bleak and barren appearance, by the influence of superior tillage—by the industry of the tenantry—by the shelter of thriving plantations—and by the fostering hand of the present proprietor, will vie, ere long, we hope, in scenery, and in fertility, with the finest districts in the south of Scotland. —*Dumfries Herald*.

CHIPPENHAM CATTLE SHOW.

PREMIUMS AWARDED.

FIRST CLASS.—President's Premium of 10*l.*—Best bull, cow and offspring—Mr. Herring, Chilcote Farm.

SECOND CLASS.—Best fat ox, 6*l.*—Mr. Isaac Salter, Malmesbury; second ditto, ditto, bred by owner.—Mr. Ferris, Shrivensham, 5*l.*

THIRD CLASS.—Best fat cow, 6*l.*—Mr. John Francomb, North Wraxhall; second, ditto, ditto, 4*l.*—Mr. James Archer, of Little Park.

FOURTH CLASS.—Two best milch cows, 6*l.*—Mr. Fussell, Lacock.

FIFTH CLASS.—Two best heifers under 36 months old, bred by owner, 5*l.*—Mr. Ferris, Shrivensham. Two best heifers, under 24 months old, bred by owner, 4*l.*—Mr. Herring, Chilcote Farm.

SIXTH CLASS.—Pair of working oxen, 2*l.*—Mr. Hooper, Badminton.

SEVENTH CLASS.—Four best fat Southdown wethers, 3*l.*—To Mr. Hooper, of Badminton. Four best fat long wool, wethers, 3*l.*—Mr. George Limbrick, Horton, Gloucestershire.

EIGHTH CLASS.—Eight best Southdown breeding ewes, 5*l.*—Mr. Wm. Hulbert, Pickwick. Eight best long wool breeding ewes, 5*l.*—Mr. Francomb, Little Badminton.

TENTH CLASS.—Best two year old cart filly, 3*l.*—Mr. Brydges, Dauntsey.

ELEVENTH CLASS.—Best boar pig, 2*l.*—Mr. J. Nicholls, Hamhill. Best breeding sow, 2*l.*—ditto.

BOUNTIES.—Second class 2*l.*—Mr. Unthank, Tottenham. Fifth class—two heifers under 24 months old, Mr. Ferris. Fourth class, 1*l.*—Mr. Rich, Didmorton. Two year old cart stallion 1*l.*—Mr. Pierce. Fat Pig, 1*l.*—Mr. Francis Francomb.

EXTRA STOCK.—Fat steer, 2*l.*—Mr. Lyne Malmesbury. Two fat cows, 1*l.*—Mr. Fussell, Lacock. Two short-horn calves, 8*l.*—Mr. Rich, Chippenham.

JUDGES.—Samuel Ferris, Wm. Church, Thos. Hales, David Unthank, E. W. Rich, James Munday.

REWARDS TO LABOURERS IN HUSBANDRY.—James Hudd, servant to Mr. Hayward, 50 years, 2*l.* Wm. Clarke, servant to Mr. Skate, North Wraxhall, 43

years, 2*l*. W. Pillinger, servant to Mr. Brown, of Box, 43 years, 2*l*. Francis Russ, servant to Mr. John Russ, Sutton, 42 years, 2*l*. Wm. Crew, servant to Mr. Fussell, Lacock, 40 years, 2*l*. Wm. Merrett, servant to Mr. Wyatt, Dauntsey, 36 years, 2*l*. Wm. Colman, servant to Mr. Little, Biddestone, 36 years, 2*l*.

Five pounds, placed at the disposal of the Society by T. H. S. B. Estcourt, Esq., distributed as follows:—Jacob Tibble, servant to Mr. Pullen, Lyneham, for 33 years, 1*l*. Samuel Stinchcombe, servant to Mr. Beak, Seagry 31 years, 1*l*. Joseph Townsend, servant to Mr. W. Rich, Christian Malford, 30 years, 1*l*. Wm. Mortimore, servant to Mr. Munday, Stanton, 29 years, 1*l*.—Jacob Hand, servant to Mr. R. Skate, Yatton, 27 years, 1*l*.

FEMALE SERVANTS.—Betty Summers, servant to J. B. Angel, Esq., Studley, 35 years, 2*l*. Ann Bedford, servant to the Rev. E. Godderd, Cleeve, 35 years, 2*l*. Sarah Elms, servant to Mr. W. Hulbert, Pickwick, 22 years, 2*l*.

DAIRY MAIDS.—Hannah Mizen, servant to Mr. Se-pance, 45 years, 2*l*. Sarah Alderson, servant to Mr. E. Jeffries, 26 years, 2*l*.

WHILE THE CHRISTMAS LOG IS BURNING.

Hail to the night when we gather once more
All the forms we love to meet;
When we've many a guest that's dear to our breast,
And the household dog at our feet,
Who would not be in the circle of glee,
When heart to heart is yearning;
When joy breathes out in the laughing shout,
While the Christmas Log is burning?

'Tis one of the fairy hours of life,
When the world seems all of light;
For the thought of woe, or the name of a foe,
Ne'er darkens the festive night.
When bursting mirth rings round the hearth,
Oh! where is the spirit that's mourning;—
While merry bells chime with the carol rhyme,
And the Christmas Log is burning?

Then is the time when the grey old man
Leaps back to the days of youth;
When brows and eyes bear no disguise,
But flush and gleam with truth.
Oh! then is the time when the soul exults,
And seems right heavenward turning;
When we love and bless the hands we press,
While the Christmas Log is burning.

ELIZA COOKE.

THE MISTLETOE.

(From "RURAL RHYMES," by J. T. MANNING, a youth.)

The Mistletoe is the bough for me,
That grows aloft in the old oak tree,
Braving the winter's stormy sky,
Caring for nought as it hangs on high.
I love its snowy branch to see
In the hall of Christmas revelry.
Quaffing oft the smiling glass,
There would I kiss the blushing lass,
Plucking each time a berry white
From the Mistletoe bough on a Christmas night.

Where is the pleasure can vie with this?
Snatching oft a hard-won kiss,
Drinking the nectar from rosy lips,
As the bee from flowers the honey sips;
Would that I might for ages live,
And that life for ever such joys could give.
Quaffing oft the smiling glass,
Then would I kiss the struggling lass,
Plucking each time a berry white
From the Mistletoe bough on a Christmas night.

DESICCATED MANURE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I noticed in your valuable paper of last week some important remarks on the Thames Improvement Company, for purifying the water, and suggestions as to making reservoirs to receive the contents of the different sewers, and converting the sediment into manure, all of which now passes into the river Thames.

I can make it fully appear (*by experiments that I have made the last fifteen months*), that the estimated loss of 300,000*l*. is nearer 500,000*l*. in manure for the metropolis and neighbourhood; and also in the same proportion (under similar circumstances) in all cities and towns throughout the United Kingdom, for generally speaking, the rivers and canals in and near large towns are the reservoirs for the sewers of the population generally.

During the last winter and this summer, I have tried many successful experiments, similar to the projection in question, particularly here, Leeds, as also the neighbourhood with my *disinfecting powder*, dispossessed both the excrement of human, as well as animal bodies of their noxious effluvia in ten minutes, and produced a fine rich black mould compost, which afterwards can be removed at any hour of the day to undergo calcination, which prepares it in twenty-four hours for shipment, either in *sacks*, or bulk; or for the immediate use of the *drill of the farmer* in the field; and if allowed to remain in the field, even in bulk some time, it will not impart any of its nutritious qualities; and when deposited in the earth all insects will immediately disappear. This valuable compost not only supplies that of bone-dust, for light and sandy soils, but is equally beneficial to *heavy and clay lands*, and may also be introduced into all hot-houses, conservatories, pleasure-grounds and gardens. This compost is prepared similar to that which Dr. Granville states in his reports of the continent, &c., but more particularly the Poudrette of Paris, selling at 50*s*. per ton, *English*, and in such great demand. In fact, I was some months receiving instructions and trying experiments, under the direction of a celebrated French chemist; and, who first furnished me with a supply of the disinfecting powder, but since that period I am enabled to produce this powder in England at a moderate expense.

I beg also to suggest, that in the absence of effecting and completing the Thames company projections, and that with a comparatively small sum, I could prepare a building near any river, where the soil could be deposited, prepared, and shipped to any part of the kingdom, which would at once convince the company now *about to be formed*, the beneficial effects arising from the plans I can suggest, and all this carried into effect in a few months.

The application tried with this compost by farmers, in this and other districts, are borne out with high testimonials; as also effecting myself, many successful experiments personally, in stagnant waters, bottoms of drains and sewers, which are such great nuisances on the paths in and near crowded cities, and manufacturing towns.

I must particularly recommend that all large establishments, hospitals, workhouses, asylums, prisons, manufactories, large houses, inns, &c., where all excrementitious matters shall by application of the disinfecting powder, *daily* be deprived of their gaseous qualities; and after such application can at the earliest opportunity be removed to the establishment erected, and undergo calcination, preparatory for use or export; if this system is adopted, it will in a great measure prevent contagions in large places, improve the health, and add to the comfort of the individuals collectively.

Further, to prevent nuisances passing from the common sewers into rivers, canals, and other channels, that every house, or establishment, shall have its *cess pool*; and made perfectly waterproof to prevent any loss, or any other inconvenience, and always have by them a stock of disinfecting powder, which will also take away from stagnant waters, and ditches, as well as all decom-

posed substances, that which is offensive, and injurious to the general health of the community at large.

It is no less important to state, that by the introduction of this powder into *liquid manures*, it absorbs the whole, and forms a black mould; and can be immediately removed without any annoyance to the public. In conclusion, I must beg to remark, several months back I submitted these observations and plans to some leading agriculturists; and even proposed a joint-stock company to be formed of farmers, in shares of 5*l.* and 10*l.* each; and in all agricultural towns, villages, hamlets, &c.; and for them to select a secretary to dispose of their funds as might be required, to carry their object into effect; but, I have found (*as in many other appeals to agriculturists,*) great difficulty in removing them from their *old paths*; with the exception of a limited number of the new school, and who perfectly acquiesced with me.

One ton of black mould compost is equal to thirty-six tons of common fold-yard manure, which in all cases I recommend to be drilled with the seed or corn, in the proportion of seven cwt. per acre for wheat, six cwt. for barley, beans, rye, and oats; but if used as a top-dressing it should be applied early in the spring months, in proportions as before named; and for clover and hay immediately after it is taken off the field.

Yours, in haste, JAMES SHEPPARD.
Wakefield, Dec. 6.

PROGRESS OF VEGETABLE LIFE.—First upon the burning sand, or naked rock, the simplest structure of vegetable life, the lichen, almost invisible to the eye, fixes itself, blown possibly by the breeze. Its generation is scarcely understood—it boasts no flowers which require time for their development, or food for their secretion. They struggle through their ephemeral existence either upon the confines of eternal snow, or upon the scorching regions of the torrid zone; they fulfil the general law of nature—they die, but in their death they are the harbingers of life; they decompose; the particles of which they are formed unite with the oxygen of the air; an acid is the result, which eats its way into the crevices of the rocks, or insinuates itself amid the sand, when its other particles form new combinations, and, burying themselves, become a first layer of vegetable mould; cracks and crevices thus are formed, in which moisture is deposited; these become enlarged, either by the expansion produced by heat, or by frost; the granite mass is burst asunder, or slow disintegration occurs. In the thin stratum of mould a tribe, a little higher in the scale of vegetable life is developed, probably some elegantly formed moss, which bears a miniature resemblance to the trees and shrubs; these too, run through their destined course; they die, and leave behind their remains for the birth place of some more perfect plants, such as the grasses, the saxifrages, the wormwoods, and plants with small leaves and slow slender stems. The vegetable mould now deepens, generation succeeds to generation, plants of a more complex structure, of a higher stature, such as shrubs and bushes, begin to rise upon the rock, or the sand, now no longer an inhospitable mass; at the last the loftiest monarchs of the forest are developed, and spread over an immense surface, for perchance a single seed, wafted by the wind, borne by some bird, washed by some flood, or swallowed by some animal, and thus prepared for germination, is the means by which the new generation bursts into birth, and changes the face of nature. There is an uninterrupted circle of events on which the preservation and the gradual improvement of all the productions of nature hangs, and there is an endless source of inquiry for man.—*Dr. Sigmond in the Lancet.*

MODE OF PRESERVING THE WHITE CABBAGE.—There is no one vegetable in the preservation of which the poor are more interested than the white

cabbage, it being not only to many an article of luxury, but also of much profit, as food for pigs, cattle, &c. We, therefore, do not hesitate in noticing it at some length, in the hope of enabling the growers the better to preserve it. It is well known to all, that whatever tends to hasten decomposition in the full grown head is the greatest evil to be guarded against—as nothing has so great an effect in that way as external injury proceeding from what cause it may, therefore all such injuries should be cautiously guarded against. Thus, dead or decayed leaves should be removed on their first appearance; and when it is ascertained that the crop has ceased to grow larger, the entire should be removed immediately, care being taken that such removal should only take place when the heads are perfectly dry—the same degree of caution being necessary in removing them so as not to bruise or injure any portion of the head. We have found that such cabbages are preserved to a later period in pits than in sheds or houses, as a too free circulation of air is far from being beneficial to them, and a confined or heated atmosphere is highly injurious.—Therefore do we believe putting the most effectual mode of preserving them, care being taken to have the pits in dry ground—not sunk much under the surface—with the bottoms rounded from the centre to the sides, by which means any moisture that may find its way inward at top or otherwise, will find its way outward to the sides at bottom. If some dry substance, such as turf-mould, dried fern, barley chaff (awns after winnowing), or cleanings of flax, be put under the heads, it will much assist in attracting the moisture that sometimes is found in the crevices of the head from perspiration or otherwise, or that might be likely to ascend from the earth. When the bottom of the pit is so prepared, the heads can be placed downward in a somewhat slanting direction, with layers of one or other of the above-named substances placed between them in the addition of each layer, till the top assumes a conical form, which should be slightly covered with the same dry substance, and again with a covering of earth about six inches thick; and, finally, on the top, with a layer of strong straw, to cast off the wet on either side. In this manner cabbages have been found to keep good till the 12th of May, care being taken in removing them from time to time to allow no means of the rain finding its way to the heads.

COURT OF QUEEN'S BENCH.

MICH. TERM.

WATTS v. THOMAS.

Goods removed before Rent becomes due cannot be followed and distrained, though they were removed fraudently.

This case came before the court upon a demurrer to the replication. It was an action of trespass for taking the plaintiff's goods and chattels. The defendant pleaded that he was seized in a fee of a cottage, and demised it to the plaintiff at a rent of twelve guineas a year; that three guineas for one quarter of a year of the rent was in arrear; that the goods were fraudently removed to avoid being distrained, and that the defendant followed and seized them within thirty days after their removal. The replication stated that the goods were removed out of the cottage before the rent became due. This replication was demurred to.

BUTT, who appeared in support of the demurrer, admitted that the case of *Rand v. Vaughan*, (1 Bing. N. C. 762) and several other older cases, had determined, that goods could not be followed if the rent was not due at the time when they were removed; he therefore abandoned the objection to the replication, and proceeded to support the plea; to which it was objected, first, that it did not state that the goods which were removed and followed were the absolute property of the plaintiff. [Lord DENMAN, C. J.—The statute says nothing about absolute property.] Secondly, that it did not state that sufficient goods were not left

on the premises to satisfy the rent. [Lord DENMAN, C. J.—That also is not required by the statute.] Thirdly, that it was not averred that the provisions of the statute respecting the appraisal and sale of the goods had been complied with. [PATTESON, J.—The plea does state that the goods were duly appraised and sold according to the statute.] But the replication is bad at all events, because it does not aver that the goods which it states to have been removed before the rent was due, are the same goods as are mentioned in the plea. Consistently with the plea and replication, there might have been one taking before, and one after the rent became due. [COLERIDGE, J.—What force do you give to the words "as aforesaid?" Next, the replication only says that they were removed before the rent became due. This is not sufficient; it should have shown that the removal was before any part of the rent became due. He cited *Thorpe v. Bryant*, (3 Bos. and Pul. 328; *Jones v. Powell*, 5 B. and C. 647).]

HENDERSON interposed, and said, that the last objection was not marked among the points.

J. HENDERSON, in support of the replication, was not called upon.—Judgment for the plaintiff.

LAW OF LANDLORD AND TENANT.—It seems to be admitted on all hands that some improvements are required in the present laws of landlord and tenant; but the objection to the bill at present before the House of Commons is that it proposes a kind of one-sided legislation—a remedy for inconvenience sustained by landlords, but none for wrongs—of equal if not greater moment to them—inflicted under our present system upon tenants. We need hardly say that lettings or holdings in a large way do not come within the scope either of the grievance or the proposed remedy, which latter, if it extends to rentings not exceeding 20*l.* per annum, will reach nearly every case in which a more summary mode of redress than now exists is wanting. That holdings over, after the expiration of terms or notices to quit, are a great evil to landlords, cannot be doubted; but is there nothing that wants curing in the harsh, and often cruel, measures adopted towards small tenants by landlords and their brokers? Let the legislature only inquire into the way in which distresses for rent are made on small tenants. Nothing is more common than for the broker to enter an apartment to seize for rent of a trifling amount on the very day it is due? But how stands the law at present in this case? The wretched tenant runs away to a friend or a neighbour to borrow the money, and, returning in ten minutes, finds an inventory made, and, on tendering the rent to the broker, the latter demands 5*s.* 6*d.* as his costs—viz., 3*s.* for the levy, as it is called, and 2*s.* 6*d.* for the man in possession; and this not being forthcoming, the bed is sold from under the wife and children of the poor man. Again, how many harsh landlords are there, who, determining to take a possession to which they have no legal right, will take advantage of the tenant's absence, at his or her daily work, and padlock them out, often to wander the streets, or seek a lodging, supperless and penniless, in the watch house? What, too, is to be said of the injustice of making the lodger's goods answerable for his landlord's rent after he has been compelled to pay his own? These are only a few of the tenant's grievances, quite as galling, if not infinitely more so, than any which befall the landlord; and we advert to them only to corroborate the points with which we set out—that a remedial law should not be partial in its operation; still less should it benefit the stronger while it passes by the wrongs of the weaker party.—*Herald*.

TITHES COMMUTATION ACT.—The tithe commissioners report to Lord John Russell that the whole number of agreements for the commutation of tithes received up to the 1st of November in this year is 652. Of these agreements 358 have been confirmed, 16 rejected or objected to, and the remainder were on the first of this month either waiting for the observations

of bishops, or for the reports of assistant-commissioners, or were under the consideration of the board. The total number of notices calling parochial meetings of which this board is cognizant was, on the 1st of this month, 2,707. Only 24 apportionments have been received, and three confirmed.

TO THE EDITOR OF THE BRISTOL MIRROR.

DEAR SIR,—Upon referring to your paper of last week, in which you give the results of the experimental feeding of twenty beasts, divided into four lots, for the Highland Society's premium, I find some miscalculations, which it may be well to set right, and at the same time to bring before your agricultural readers, in as clear and concise a form as possible, the value of the different descriptions of food, together with the loss or profit accruing to the feeder from the use of them. The cost of the former I collected from the prices attached to the printed account sent from Scotland, as given by Mr. Brodie; but as no prices were mentioned at which the beef, tallow, and hides, were sold, in my calculation I assumed beef to be 7*s.* a stone, tallow 4*d.* a lb. and hides 3*d.* a lb. Each lot was put in at 55*l.* originally. The account will stand thus:—

Lot	Cost of Feeding.		Total.		Total Produce of Beef, Tallow, Hides.		Profit.		Loss.	
	£.	s. d.	£.	s. d.	£.	s. d.	£.	s. d.	£.	s. d.
1..55.	51	16	6..106	16	6..111	13	9..	4	17	3
2..55.	47	3	5..102	3	5..118	6	6..16	3	1	
3..55.	56	14	9..111	14	9..111	11	1..	..	..	0 3 8
4..55.	61	19	10..116	19	10..110	17	7..	..	..	6 2 3

The first lot were fed upon turnips alone; the second upon turnips and oil cake; the third upon turnips and bean meal; the fourth upon distillery offal and a small portion of ground corn. The feeding of the third lot was said to have been much retarded by having amongst them a beast uneasy in its temper, otherwise, bean meal is in the north in high repute as a substitute for oil cake, and many assert that its nutritious properties when given with turnips are equal. Each lot had as much straw as they could consume. From the account thus rendered, it appears that if the whole twenty had been fed solely upon turnips, and had done equally well with those which were so fed, the profit upon the twenty beasts would have been 19*l.* 19*s.* If all had been fed upon turnips and oil cake, under like circumstances, the profit upon the whole would have been 64*l.* 12*s.* 4*d.*, leaving a difference in favour of the latter system of feeding of 45*l.* 3*s.* 4*d.* Recommending these results to the consideration of graziers in the vicinity,

I remain, Dear Sir, faithfully yours,
Kingsweston, Dec. 19, 1837. W. MILES.

The Field Garden Tenants of High Littleton, deeply impressed with gratitude to their generous benefactor, Captain Scobell, waited on him on Thursday last, and presented him a silver cup, splendidly chased, manufactured by Mr. Young, High-street, in this city; on which was the following inscription:—"A Testimonial of Gratitude from the Field Garden Tenants of High Littleton to their Landlord, Patron, and Friend—George Treweek Scobell, Esq., 1837." This was a testimonial of which the gallant captain may feel more justly proud than of any achievement of naval prowess.

THE QUANTITY OF MALT CONSUMED BY THE UNDERMENTIONED BREWERS OF LONDON AND VICINITY,

From OCTOBER 10th, 1836, to OCTOBER 10th, 1837.

	Qrs.		Qrs.
BARCLAY and Co.	100326	Braithwaite	799
Hanbury and Co.	81440	Addison	768
Whitbread and Co.	47012	Turner	766
Reid and Co.	42700	Holt	756
Combe and Co.	40454	Church	742
Hoare and Co.	32347	Clarke, S.	741
Calvert and Co.	32325	Mann, Joel	733
Meux and Co.	30623	Turner	712
Elliot and Co.	24150	Mantell	693
Taylor and Co.	23556	Lock	651
Charrington and Co.	18842	Hood	649
Thorne and Son	16404	Pink, A.	636
Gardner	15256	Collins	598
Ramsbottom & Co.	15227	Wright	588
J. and S. Goding,		West	565
(11 months)	14023	Abbott	560
Bricheno	9863	Hert (6 months)	552
Courage and Co.	9286	Wells	520
Wood and Co.	7834	Higgs	475
Goding, Thos.	7095	Harris, Robt.	470
Hazard	6674	Woodward	462
Mann, Jas.	6588	Wicks	441
Harris, Thos.	6042	Bell	440
More	6025	Thompson	406
Mc Leod, B.	4960	Mattam	400
Farren and Till	4783	Mc Intosh	397
Manners and Co.	4552	Thurlyb	392
Hale, Geo.	4547	Griffiths	391
Halford & Topham	3786	Kay	360
Stains and Fox	3783	Tidman	332
Lamont and Co.	3600	Lindsay	326
Laxton	3583	Cooper	315
Richmond	3174	West	306
Maynard	3133	Carpenter	299
Mc Leod & Thompson		Green	292
	2834	Chapman	286
Tubb	2826	Brace	266
Johnson and Wyatt	2809	Clark	248
Duggan and Co.	2665	Allen	245
Hodgson	2400	Powditch	238
Sherborn and Co.	2347	Garnett	232
Griffith	2221	Hill	222
Cox, John	2151	Olley	214
Masterman	1914	Ward	206
Hill and Rice	1853	Bye	201
Gray and Dacre	1760	Newton	175
Plimmer	1747	Chadwick	169
Hayward	1737	Prosser	166
Verey, W. and C.	1573	Smith	164
Williamson and Co.	1566	Edwards	156
Honeyball	1512	Pugh	155
Satchell and Son	1441	Hainstock	155
Clarke, C.	1330	Lloyd	154
Colyer	1299	Reynolds	151
Filmer and Wall	1298	Latham	142
Nicholls and Co.	1240	Meaton	140
Hagan	1143	Brewer	135
Hume	1126	Stirling	133
Buckley and Co.	1025	Ambler	130
Verey, J.	1017	Potter	122
Collins, J.	966	Champion	121
Jones	956	Miller	115
Ufford and Oldershaw		Edwards	108
	953	Easton	105
Blogg, B.	943	Griffiths	105
Ing	900	Hopkins	91
Keep	886	Hudson	90
Soulby	861	Thorpe	89
Clarke, R.	834	Burt	88
Jenner	833	Bowden	88
Manvell	824	Batt.	84
Mc Leods	820	Phillips	83

	Qrs.		Qrs.
Jewit	82	Smith	62
Tyler	76	Woodroffe	60
Whittaker	75	Knight	60
Begbie	75	Graves	54
Carter	75	Sheppard	52
Priddle	74	Field	51
Coomber	73	Bradfield	51
Stallwood	71	Webb	50
Jones	71	Chapman	48
Rose	67	Dene	45
Norris	67	Priestrey	45
Remnant	62	Godbs	32
Kearney	62	Hobman	31

QUANTITY USED 1836, 754,313 QRS.
QUANTITY USED 1837, 714,488 QRS.

DECREASE.... 1837, 39,825

JOHN SLATER, Cask Inspector,
Brewers' Hall.

ON THE DESTRUCTION OF WEEDS, &c.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—As parliament has met, I wish a short act could be passed, calling upon occupiers to mow thistles and charlock and cleanse their borders and quicks and corners of grounds, and to cut their quicks, lop their trees, and cleanse out their ditches. This latter object is of the utmost importance to hollow draining, for if you farm close to an obstinate neighbour, or an *anti* hollow draining man, all your outlay must end in vexation and disappointment. The employment thus given to the poor would more than pay the farmer for the cost, thereby easing the poor's rate!! On refusal after notice, the matter should be decided before a magistrate like the provisions about cutting quicks, &c. &c., which are contained in the general turnpike acts.

A HUNTINGDONSHIRE FARMER.

Dec. 9, 1837.

WONDERFUL HEIFER.—On Saturday last was slaughtered, by Mr. Henry Jenkins, of Cirencester, and exhibited by him on Monday last at the market, a most extraordinary fat heifer, not sixteen months old (cross between Long Horn and Durham) weight, 37 score and 8 pounds, and full of fat, bred and fed by Mr. William Saunders, cattle dealer, of Ashton Keynes, Wilts. Taking her age, and simple mode of feeding into consideration, she was acknowledged by eminent breeders and graziers, to be a most singular animal. For the last month she shared about half a bushel of potatoes daily, and fed previously on grass, hay, and the produce of her mother only.—*Wilts Independent*.

MUCH MORE WONDERFUL STEER.—The steer bred by Mr. Gibb's of Bishops Lydiard, Somersetshire, and exhibited by Mr. Gible, of Bond-street, at the late Smithfield Show, was of what is called the Somerset or *Improved Devon* breed, 19 months old, and weighed 166 st. 4½ lbs., or 66 score 12½ lbs.

COUNTY OF TWO MOUNTAINS AGRICULTURAL SOCIETY.

We give insertion to the subjoined Report, thinking it may be interesting, as exhibiting a somewhat novel mode adopted by Agricultural Societies in Canada for Promoting Agricultural Improvement, and also furnishing some information upon the produce of the late harvest.—Ed. F. M.

REPORT OF THE INSPECTORS OF STANDING CROPS AND AGRICULTURAL IMPROVEMENTS FOR THE PRESENT SEASON.

The undersigned having been duly sworn as Inspectors of Crops, &c., commenced the first tour on the 17th July at St. Andrews, and proceeded downwards, examining very minutely throughout the parishes of St. Benoit, St. Eustache, and St. Scholastique, where the competition was considerable, and extended over some new routes not previously visited by the society.

On barley the competition was general, although chiefly in small pieces. The quality of the grain is superior, and we have much pleasure to state, that the views of the society were in most instances seconded by individuals with regard to cleansing the seed grain, without which all the care of the husbandman to excel in the preparation of his land will prove entirely nugatory. Two or three pieces of very heavy barley came under our notice, which, by a most culpable inattention were sown with foul seed, and of course were excluded from any premiums by the rules of the society.

Rye is not very generally sown, but in favourable situations, it will prove a good crop this season. The field which obtained the second premium has a very heavy crop, and had proper care been taken in preparing the seed it would have obtained the first premium. This grain will probably be sown to a greater extent than usual next season, with the prospect of improved prices in these whiskey consuming times.

TIMOTHY CLOVER.—There was a considerable competition in grass, but with the exception of newly laid down meadows, the crop will be very deficient, and although the rains which fell in copious showers towards the latter end of June, proved beneficial to low lands, yet in our opinion hay will not average much over half the usual crop. The object of the society being to encourage the cultivation of the most profitable mixture of grass, some fields where the clover was nearly the only crop, were necessarily excluded by our instructions. On the farm of John Wainwright, Esq., R. N., we examined a field of newly laid down grass of a most extraordinary luxuriance, which consisted almost entirely of red clover, and had there been a proper proportion of Timothy grass amongst it we would have had much pleasure to have awarded it the first premium. We take the liberty to recommend to the committee of management to sanction a gratuity equal to the second premium on grass to testify our approbation of the superior cultivation of this field.

The final tour of inspection for this season terminated on the 25th August, and occupied the Inspectors ten days constant travelling.

On Wheat.—The competition was much more extensive than any previous year since the establishment of the society, and it affords as much gratification to state, that we found by far the greater part

of the fields exhibited under superior cultivation. Although we found some fine fields of this grain in the upper part of the county, yet on the whole the wheat crop is considerably beneath an average crop. The greater part of the late heavy wheat has suffered by rust, and the worm in the year, which until within a few years was entirely unknown here, has done much injury this season; in some settlements towards the lower end of the county, at least a quarter of the crop is destroyed. We examined its destructive operation very minutely, and found that the white bearded wheat seemed to be its favourite. The red bald wheat, according to our observations appeared to be more exempt from its ravages than any of the other kinds. In a recent American publication a preventative of the worm in the ear is recommended, which, if efficacious, cannot be too extensively known. It directs the farmer to sow fine sifted lime in his fields when the grain is *in blow*, on the dew or after rain. The lime, it is said, prevents the fly from depositing its eggs. A peck will suffice for an acre. This is a cheap experiment, and should be very generally tried.

Smut.—Very few fields were exempt from this disease, excepting where great care was taken to prepare the seed previous to sowing. The most effectual preventative we learn, after a diligent inquiry, is to wash the grain in chamber-ley or strong pickle, the former in preference, and then to mix sifted lime with the grain immediately before sowing. We examined some fields, the seed of which was thus prepared, were entirely free from smut. One farmer whose wheat was very smutty, informed us that he considered it owing to his having neglected to wash the seed this year, as he was generally in the habit of doing.

On Oats.—The crop is undoubtedly the most luxuriant of the productions of the earth, this season, and although much of this grain is generally sown rather late, it promises to be an excellent crop. The competition on this grain was as usual very extensive—the seed of the field which obtained the first premium was imported from England.

On Peas.—The competition on the most valuable of the pulse species was not so numerous as on the two preceding years, but we found some fields of an excellent quality on the clay lands in the centre of the county.

On Maslins.—This being a new article of competition the number of those who sowed their fields with “mingled seed,” contrary to the Mosaic injunction, were but few. Some of the pieces bore heavy crops, and would amply repay the labours of the husbandman. The general mixture was peas and oats sown in nearly equal proportions, which on some soils is found to yield a greater return than either of these grains if sown separately.

Indian Corn.—Is quite backward compared to former seasons, and it can hardly be expected to ripen before frost sets in. The competition was limited, but superior attention in the planting and cultivation was evinced by most of them.

Potatoes are very generally cultivated, and the competition was most extensive. Much attention to cleanness and superior workmanship was displayed by nearly all the fields which came under our notice, at least one half of the quantity planted was late, and would consequently be exposed to early frost.

Turnips which had proved a partial failure with most of the farmers, on old land for some years past, will be a superior crop this season, and we were glad to find more competitors on this valuable root than usual.

Summer Fallow.—This valuable cleansing operative

is beginning to be more generally appreciated by most of our farmers, and it gave us much pleasure to find so many competitors. The following in general was well performed, and some of the fields were of considerable extent.

Best Managed Farms.—The competition for this enviable distinction was much greater than any previous season, being thirty six farms, to examine which so very minutely, proved the most difficult part of the inspectors' labourious task. In general the economy and management of both land and buildings was found to be very creditable to the proprietors. It will be still fresh in the recollections of the committee, when the fields of the majority of our farmers presented a very slovenly appearance in tillage, and in most cases the borders and ditches were fringed with noxious weeds, allowed to seed unmolested, to the great detriment to their neighbours, as well as injurious to their own adjacent lands. We have much pleasure to remark the rapid improvement which has taken place in this respect, and in general the borders of the fields are now kept as neat and trimmed as the whiskers of a modern exquisite. There are indeed a few exceptions to this general commendation, but we are glad to be enabled to say truly, that they are like

"Angels' visits, few and far between."

This most desirable change is no doubt almost wholly to be attributed to the exertions and influence of your Society, which though of recent establishment, has already proved of incalculable benefit and rival ambition amongst our farmers generally, both in the cultivation of the soil, and in raising the stock of the most approved breeds. We were much pleased to find amongst the most intelligent of the Canadian farmers a greater degree of interest taken in the affairs of the society than on any former occasion, and we omitted no opportunity to impress on their minds the great and permanent benefit which they might derive from its establishment by a liberal and more general support on their part. Dr. Abner Rice of St. Andrews, Mr. Martin Albright, Bay of Carrillion, and John Wainwright, Esq., R. N. Silver Heights, having each successively obtained the Society's first premium, for superior managed farms, the inspectors are unanimously of opinion that the society should bestow a silver medal on each of these gentlemen, and that they do cease to compete for the said farms in future, or as the managing committee of your society may direct.

Remarks.—In deciding the claims of the numerous competitors during both tours of the inspectors early maturity in every article, with cleanness of seed and neatness of tillage, was invariably preferred to heavier and later crops, which were then in danger of suffering from rust, early frost, and other casualties. The object of the society being not only to reward agricultural merit, but at the same time to encourage the raising of clean seed and superior of every description, and the decision of the inspectors is considered a guarantee for its being clean and in every respect suitable for sowing.

A fine field of wheat belonging to Mr. Adam Burwash, River Rouge, Argenteuil, was deprived of a premium in consequence of the seed being a mixture of three kinds ripening at different periods.

In a similar predicament is placed a field of excellent oats belonging to F. T. Cunningham, Esq., Carrillion Hill, being also deprived of a premium on account of the seed being mixed with a late kind of oats. Also a field of oats belonging to Mr. Wm.

Clark, second concession, Chatham; this was the most luxuriant grain, which we had met with during our tour—the grain stood nearly seven feet high, on old land, heavily headed and not lodged. A slight admixture of rye deprived it of a premium.

The barley of the Messrs. Dewars of Chatham, which obtained the first premium was imported by them from Britain, and was sown for the first time on a Canadian soil. It is remarkable for cleanness of seed and luxuriant growth. We would strongly recommend to our farmers to obtain seed of the above mentioned barley.

We learn that much of the early sown barley, especially in the Canadian settlements, has been sent to the mill for human food, which to many families proved a most seasonable relief, and was preferred to the musty foreign grain, which many of the farmers were compelled to have recourse, owing to the deficiency of their last year's crop. The funds of our highly useful society having been considerably increased this year by a most liberal donation from Lieutenant Colonel Charles C. Johnson, Seigneur of Argenteuil, we feel happy to state that the society is not only enabled to offer additional premiums on grain and other farming improvements, but also to encourage new articles of competition, of which the following are deserving of immediate notice.

Flax.—We suggested last year the propriety of offering premiums for raising this valuable plant, which is now cultivated in small patches by most of our farmers, and in many places it looks remarkably well, in our opinion it deserves to be encouraged by liberal premiums even on small quantities, of land at first, with a view to develop more fully our local capabilities for raising the plant profitably.—The fostering aid of the society to this useful article might probably lead, at no distant period, to the erection of flax mills in central situations, and where water is so abundant. In the present public feeling on the subject of domestic manufactures, we feel persuaded, that on proper application, legislative aid might be obtained for the erection of at least, one flax mill in every county where the plant can be raised to advantage; the benefit of which would result from such an undertaking, cannot at the present time be fully appreciated. The generally admitted axiom that the presence of the raw material will speedily produce the corresponding manufactures, would, we are convinced, be fully verified in the case now under our notice. We observed carrots in several places in field culture and in general the crops promised to be very good; in one field the seed was sown in drills in the fall, and appeared to us to be more forward than those sown in the spring. This valuable root deserves encouragement.

A premium for raising tobacco would prove very acceptable to the Canadian subscribers of your society, who are often baffled on other articles by the superior skill of the English farmer; a quarter or even an eighth part of an acre would perhaps be sufficient to begin with this new article.

Various other articles will occur to the committee for which premiums may be offered advantageously.

The whole nevertheless respectfully submitted.

(Signed)

JOHN M'MARTIN,
FRS. LAFRANBOISE,
PETER M'MARTIN,
JOSEPH LALONDE,
DUNCAN M'NAUGHTON.

Inspectors.

St. Andrews, August 25, 1837.

THE LAW OF LANDLORD AND TENANT.

As all our readers fall under the denomination of either landlords or tenants, and the majority of them answer to both descriptions, and many must be holders of mortgage securities, we make no apology for inviting attention to a bill now in Parliament, under the title of a bill to facilitate the recovery of possession of tenements after due determination of the tenancy. By the title, the public would be led to conclude that the scope of the bill would operate only over small houses, commonly occupied by the poorer classes of the community. So far the bill misleads the public by its title, as it extends to every description of house property of whatever value, and by whomsoever occupied. The first clause of the bill, seeks to clothe justices of the peace (as to premises let for rents not exceeding 20*l.* per annum either to tenants at will, or for terms not exceeding seven years, upon the complaint of landlords, that the tenants' terms have expired, either by effluxion of time, or by notice to quit, or otherwise, and that notwithstanding the tenant refuses or neglects to quit possession) with the power of issuing a warrant directed to a peace-officer, to assist the landlord in taking possession by force, if needful. We should observe upon this clause, that it is decidedly objectionable to give to justices of the peace a power of interference in cases of tenancies of will, except where the tenancy has been determined by a notice to quit, and in cases of demise for a term of years, except only where the term has expired by absolute effluxion of time. To this extent only, should their power go. We therefore claim that the words "or otherwise" printed in italics should be expunged, as tending to raise a question whether justices of the peace might not take cognizance of determinations of tenants' interests claimed by landlords to have been brought to an end by breaches of covenant or waste committed. Our readers will at once see that such questions are not proper to be entrusted to the adjudication of justices of the peace. It is undoubtedly a great evil, and one of frequent occurrence, that landlords are kept out of their property by bad tenants wilfully holding over after their notice or term has expired, and the summary interference of a justice of the peace in such cases is much needed—it must, however, be confined to cases of absolute expiration. The bill also provides (as to premises held at a rent exceeding 20*l.* per annum, or for a term exceeding seven years,) where the landlord has brought an action of ejectment, that a judge of one of the superior courts shall be empowered to compel the defendant in such action to give security for costs and damages in the event of not succeeding in his defence—the security to consist of a bond entered into by himself (the defendant) and two sureties. This would, indeed, be an extremely arbitrary enactment, and should be strictly confined to defendants holding over after their leases have positively expired by effluxion of time. Unless so restricted, a defendant might be ousted wrongfully, out of an estate of great value, to which he had a sound title, simply because he could not procure two approved securities to join him in a bond of indemnity to answer costs and damages as above stated. The bill provides that landlords imposing by false representation upon justices of the peace, whereby they shall have procured warrants of ouster, shall be deemed guilty of misdemeanour, and punished as persons guilty of perjury. This is an extremely proper provision, and extends only to tenants a due protection against abuses of the law; the bill, however, falls greatly short of extending to landlords

one provision of which they stand much in need—viz., that of giving to justices of the peace a summary power of redelivering to landlords possession of houses which they have been palpably induced to let by the false representation and connivance of swindlers. The present state of the laws is a dead letter as respects such cases. Wilful misrepresentation of character, whereby a landlord is induced to accept a swindler for a tenant, should be deemed a misdemeanour and be punishable as such, as well as form a ground for a summary application to a justice of the peace for a warrant of possession. The case of the notable Cushion court-gang affords an example of the want of such a summary jurisdiction. As the law now stands, however much a gang of swindlers, or co-operating scoundrels may, by lies the most plausible and wilful, induce a landlord to accept a bad tenant, he (the landlord) has no remedy over against the parties making such wilful misrepresentation, whereby he is cheated out of the possession of his property, nor are they punishable in any way for their villany.

Whilst we admit that such relief, as we have glanced at, is much required for the protection of landlords, yet, in fairness, we must, at the same time acknowledge that there does exist in the present state of the law a most oppressive evil against tenants, who are of the class of leaseholders—an evil admitting of so much oppression if carried out to the fullest extent of its capability, as would go well nigh to disturb the peace of the country in the ruin and confusion it would occasion. We allude to the case of building leases. These leases commonly contain many houses, the dilapidation of any one of which subjects the whole to forfeiture, and, we may add, the dilapidation of some one of which is, *legally speaking*, nearly sure to happen. This is a crying evil, because the unfortunate leaseholder has generally tenants in actual possession, whereby he is prevented from guarding against such possibilities. We say advisedly that all the leasehold property in the kingdom owes its continuance to a mercy and an exercise or justice on the part of landlords, to which it is not politic or safe to trust. What then, our readers may say, would you advise should be done to guard against an evil of such an alarming kind? We will suppose the question asked, and proceed to reply—let no landlord be enabled to recover in ejectment more houses than are dilapidated—not so only, but let his judgment in ejectment for non-repair be assimilated to his judgment in ejectment for non-payment of the rent—that is, be subject to abrogation, in the event of the needed repairs being done in a given time. This is justice—it is only justice to leaseholders—as such we claim to have it awarded. It may be that the Court of Chancery would render relief against the exercise of such flagitious injustice as we have pointed at as capable of commitment through the operation of the law courts. But why continue a severity in law for equity to control? Let it not be continued, unless it be desired for one tribunal to show the injustice of another.

EASTBOURNE.—RURAL ECONOMY.—“At the meeting of the parishioners, held a short time since, for the purpose of levying 200*l.* for watching the parish of Eastbourne, till Lady-day, the number of labouring men employed by each farmer, formed a subject of enquiry; the result of which was, that up to the 9th of Dec., one farmer had four men, besides boys, to every 100*l.* rateable property, and two men over. Now, if every farmer had four men employed in the proportion of 100*l.* in the parish valuation, there would not be one labourer out of service, and, consequently, but few depredations could be expected to be committed; and by increasing

the allowance afforded to three infirm men, who could be usefully employed in watching the vagrant idlers, prevent those nightly depredations, which have cast suspicion on the good conduct of the inhabitants, of whom there have been no convictions for nearly twelve months. This meritorious conduct has probably been promoted by most of the labourers having each rented a few rods of land, on condition of forfeiting the ground and crops at any season, if convicted of a misdemeanour, before a Magistrate; or of having committed one in the opinion of three of his fellow workmen. The land is let at the same rate to them as to the farmer, and not one penny has been lost in the rental during the seven years it has been so let. The occupiers are grateful, and express the benefit their families have received. These parties have now been offered various premiums, from one to five two-shilling clothing tickets, for the greatest number of ears of wheat from one grain, to be decided next harvest. Three prizes for a similar purpose were given by the Battle Horticultural Society this year, when R. White received 10s. 2d. for 61 ears, and next year 1d. to 2d. will be given for each ear from a single root, being the best grown within twenty miles of Battle. The Earl of Burlington's principal tenant, at Eastbourne, has tried the experiment, whether a saving in the seed cannot be effected by dibbling wheat, instead of sowing broad cast, which requires three bushels per acre, costing 1*l.* 4*s.*, and he found that one gallon of seed was sufficient if dibbled at 6 inches by 9 inches, costing one shilling, and the labour of a man two days and a half, and two boys—6*s.* 8*d.* more, making the total cost 7*s.* 8*d.*, leaving a saving to the farmer of 14*s.* 4*d.* Should any spots fail they may be filled up with tellers from strong shoots. This can be done by boys. In Hertfordshire, Cambridge, Norfolk, and Suffolk, dibbling is much practised, and the estimated cost per acre is 6*s.*—labour, 2*s.*, leaving a surplus saving of 16*s.* per acre. These facts will, it is hoped, offer great inducement to the farmers of Sussex for general adoption.”
—*Sussex Express*.

FLOCKS AND HERDS ON THE CONTINENT OF EUROPE.

FROM CRAVEN'S EXCURSIONS IN THE NORTHERN PROVINCES OF NAPIES.

“One of the broad tratturos, or cattle-paths, runs in the same line with the high road to Aquila; and I was so fortunate as to see it occupied by a very extended line of flocks, which slowly passed by the carriage for the space of a mile or more. The word ‘fortunate,’ adapted to such a spectacle, may excite a smile in my readers; but I own that I never beheld one of these numerous animal congregations plodding across the flats of Capitanata, or the valleys of Abruzzo, as far as the eye can reach, without experiencing a sensation of a novel and exciting kind, nearly allied to that of enjoyment, but which I shall not attempt to account for. One shepherd heads each division of cattle, of which he has the peculiar care and direction; armed with his crook, he walks some paces in advance of his flock, followed by an old ram termed *il manso*; which word, meaning tame or instructed, has undoubtedly a more apposite signification than that of our bell-wether, though he is, as well as ours, furnished with a large deep-toned bell. The sheep march in files of about twelve in each; and every battalion, if I may so call it, is attended by six or eight dogs, according to its number; these accompany the herd, walking at the head, middle, and rear of each flank. The beauty and docility of these animals, which are usually white, has often been described, and their demeanour is gentle as long as the objects of their solicitude are unmolested; but at night they are so savage, that it would be dangerous to approach

the fold they guard. The goats, which bear a very small proportion to the sheep, and are in general black, wind up the array, and evince their superior intelligence by lying down whenever a temporary halt takes place. The cows and mares travel in separate bodies. A certain number of these flocks, commonly those belonging to the same proprietor, are under the immediate management and inspection of an agent, entitled *fattore*, who accompanies them on horseback, armed with a musket, and better clad than the shepherds, who, both in summer and winter, wear the large sheep-skin jacket, and are in other respects provided with substantial though homely attire, and good strong shoes. These *fattori* are all natives of Abruzzo, an Apulian never having been known to undertake the profession; the former, through particular habits and the repeated experience of years, are looked upon as so peculiarly fitted for the care required by cattle, and indeed animals of all kinds, that all the helpers in the stables of the capital are natives of these provinces, or of the adjoining county of Molise. In addition to these qualifications, they are esteemed an abstemious and honest race. When following the calling of shepherds, and occupied, as I saw them, in the duties of their charge in travelling, their countenances are almost invariably marked by the same expression, which combines mildness and sagacity with immovable gravity, and, it is painful to add, a look of deep-seated sadness; the whole caravan, animal as well as human, exhibiting, at least while engaged in one of those tedious peregrinations, a general appearance of suffering and depression, distinguishable in every individual that composes it. The shepherd that opens the march, the independent manco, jingling his brazen bell, the flocks that follow, the dogs that watch over their security, and even the *fattore* who directs the procession, all appear to be plodding through a wearisome existence of monotony and toil. The extreme slowness of their progress, the downcast expression of every head and eye, and, above all, the indications of exhaustion and fatigue which are but too perceptible after a journey of more than a month's duration, may well account for this impression. The animals suffer greatly from heat until they reach their summer dwelling, and full as much from lameness, which, when it has reached a certain pitch, becomes the signal for destruction. I saw a mule bearing no other load than the skins of those that had perished in this manner. Several other beasts of burden follow the rear of the herds, laden with the various articles necessary for them and their guardians during their protracted march; these consist in the nets and poles requisite to pen the folds at night, the coarse cloth tents for the use of the shepherds, and a limited stock of utensils for milking, and boiling the produce of the flock. Among these are to be noticed some portable jointed seats of very ingenious though simple construction, composed of the stems of the giant fennel, a substance remarkable for its light and compact texture. The cattle which I thus met near Aquila were within two days' journey of their resting-place, which is generally in some of the valleys placed on the lower flanks of the mountain ridges, but sufficiently elevated above the larger plains to afford fresh and abundant herbage and a cooler temperature. The duration of their abode in these regions is regulated by the rapid or slow progression of the summer season; in the course of which they shift their quarters, as the heat increases, till they reach the highest spots, which are the last divested of the deep snows in which they have been buried during three-quarters of the year.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR DECEMBER.

The weather of this month has been still less winterly than the last. As to field labours, which have consisted of ploughing such fallows as have been cleared of turnips, &c.; draining wet grass and arable lands, carting out manure, planting and felling timber trees and coppices, carting home gravel, repairing fences, thatch, &c.; they cannot but be in a forward state, or, indeed, snugly finished. The pastures and sheep downs, too, with other natural as well as seedgrass lands, are still, except in very low and swampy situations, sound, and tolerably fresh; and the flocks and winter stock depastured on them, with live farm stock, in general healthy and doing well; the depastured part of it, without the aid of any succulent or dry fodder. There has been a good general crop of potatoes secured; whilst all kinds of winter fodder are in great plenty.

At the whole of the cattle shows which have been held this month, a large collection of very superior stock have been exhibited—the Smithfield Club standing conspicuously forward as having had the most splendid collection of stock ever witnessed, whilst the attendance of visitors has been very numerous and respectable.

As relates to the month's prices of farm produce, those of each kind of fat stock, instead of being considerably on the advance, as has been usual, in many preceding years, on the approach of Christmas, have experienced a very trifling enhancement. Indeed, it is generally supposed by those who are best acquainted with Smithfield Cattle Market, that those who have sent their fat beasts this month have sustained a loss of nearly 2*l.* per head, by the Club's show having commenced so early as the 8th, consequently causing the first great market to be held on the 11th—many butchers not having sufficient capital to purchase their Christmas stock so long before the time of consumption; whilst others will not do so on account of the astonishing manner that highly fed beasts fall away, either from being placed upon a change of diet, or from travelling and fasting. The 17th of the month would be, in our humble opinion, the most seasonable day for the commencement of the Club's show.

The following is a statement of the supplies which have appeared in Smithfield Cattle Market during the month, and the prices at which they have been disposed of.

The supplies have consisted of 19,064 beasts; 108,994 sheep; 2,003 calves; and 3,022 pigs.

About 3,000 short-horns of the beasts which have formed the above supplies, have arrived from Lincolnshire; about 1,000 from Leicestershire; 400 from Northamptonshire; 400 Scots, from Norfolk; 220 Devons, Herefords, and Scots, from Suffolk; 70 Scots, Herefords, and runts, from Essex; 100 Herefords and Devons, from Cambridgeshire; 80 Devons and Irish beasts, from Warwickshire; 100 runts and Herefords, from Oxfordshire; 300 Herefords, from Herefordshire; 600 Devons, from Devonshire; 90 runts, from Wales; 100 Scots, by sea, from Scotland, 200 oxen, cows, Steers, and Heifers, from Sussex; 90 runts, Devons, and Herefords, from Essex; and 110 Devons and

runts, from Kent. The remainder of the supply came chiefly from the neighbourhood of London.

PRICES.

Per 8lbs, to sink the offals.

	Nov.		Dec.	
	s.	d.	s.	d.
Inferior Beef . . .	2	4 to 2	6 .. 2	2 to 2
Middling, do. . .	2	8	3 0 .. 2	6 3 4
Prime, do.	3	10	4 8 .. 4	0 4 4
Inferior Mutton . .	3	0	3 2 .. 2	10 3 0
Middling do. . .	3	4	3 6 .. 3	4 3 10
Prime ditto, . .	4	0	4 8 .. 4	0 4 6
Veal	4	0	5 0 .. 4	0 5 0
Pork	3	6	5 2 .. 3	4 5 2

This month's supplies of each kind of fat stock, but more especially those of the beasts, have been allowed to be the primest and most even, as to general quality, which has been recollected to have been witnessed in any December for many preceding years.

The supplies of sheep this month have consisted of about equal numbers of South Downs, old and new Leicesters, Dorsets, Somerset, and Welsh sheep, with a few pens of polled Gloucesters, &c.

The quantity of meat which has been transmitted to Newgate and Leadenhall markets during the month, has consisted of about 220 carcasses of beef, 13,000 ditto of mutton, 9,000 ditto of veal, and 8,500 ditto of pork; the whole of which has been of superior quality.

CUMBERLAND.

The weather since my last report has been of a very variable character; first, torrents of rain, which saturated the ground with moisture, succeeded in a day or two by a keen and biting frost, which again was followed by such quantities of rain as to force the rivers out of their usual course and cover the low grounds with sheets of water; and again in 24 hours frost, with now and then a day of the most delightful weather more resembling May than December, and not a few dark and gloomy, such as is generally understood by a November day; the snow, however, has only been visible to the arable farmer upon the distant mountains, which have often been covered with the winter's garb; but the snow we read of as being a foot deep on the roads, as impeding the mails, &c., &c., has only been seen by the Cumberland farmer in the columns of the London papers. Farm labour, which is so much dependant on the state of the atmosphere, has of course partaken of its changeable nature. Ploughing stubbles, when the land was dry enough and not too hard to admit of it,—this department of farm labour from the generally favourable autumn is very forward—cutting off and carting turnips, thrashing and tending cattle, with hedging, and in some few very dry situations sowing wheat upon turnip land, may be said to have formed the principal part of farm work. Wheat has seldom or never been offered for sale in the large quantities expected at this season of the year; the demand has kept lively, and it is the general impression that the stocks are low, and that there will be a deficiency before another harvest. Barley does not yield so well from

the sheaf as last year; the brewers and maltsters seem unwilling purchasers even at the present low rates, and as the holders are not inclined to take less the trade has become very languid. Oats are, if any thing, rather more dull. The markets for fat cattle have shown little animation; if in the beginning of the year, as is usual, they should rise and stock go freely to market, turnips will be sold at a still lower rate; if, however, on the other hand the markets continue bad for some time to come (which we suppose will depend upon the state of trade in the manufacturing districts) then in that case the present prices will be maintained, or perhaps rise a little; that they will not do so materially appears certain from the great crop and consequent slowness with which sheep and other stock clear the ground. Sheep upon turnips are more forward in condition than for some years, for although the spring was late, and they on that account poor, yet the fine summer and still finer autumn, added to the good crop of turnips more than counterbalanced the lateness of the spring, and it may safely be predicted that they will come early to market and be fatter than usual. The markets for lean stock are dull, more from the great shows being over than any falling off in prices—the indeed the trifling number offered for sale in December can be no rule. Milch cows have continued since September to be very scarce and extravagantly dear. There is more demand for wool at a small advance in price, but the holders calculating upon a further rise appear not anxious to sell.—Dec. 22.

GLAMORGAN.

At this season of the year farming operations do not afford much that is interesting to report upon; the attention of the agriculturist being chiefly confined to thrashing out his crop and foddering his stock. The weather recently has been so extremely wet, that the land has been too soft for ploughing or casting manure over it. The temperature having continued high, the thermometer frequently ranging in the past week from 50 to 55 degrees, the young wheat looks green, vegetation having only experienced a temporary check in the first week of the present month, when we had a few nights of sharp frost, with snow on the hills. But the plant is not thick, the seed being damp, and in many cases injured in the harvest. The crop of last year is not considered equal to the preceding years, and we hear of very great complaints that the yield is deficient. Barley is a better crop as to quantity, but the quality of at least two-thirds is very inferior. Turnips have continued to improve, and are an average crop when they escaped total destruction from the black caterpillar. The mangels have been secured, but the crop is far below an average. Storing the Swede turnip has in some instances been done in this county, and we cannot too strongly recommend the practice. This root is seldom consumed until late in the spring months, when it is most valuable; but the great injury to the land from the turnip growing to seed is very extensive, far greater than the expenses of taking up the crop before winter and stacking them. An average crop can be secured at from 15s. to 20s. an acre, and covered with earth, like potatoes in some convenient situation. When the turnip is left uncovered in the ground until April, we have seldom known succeeding crops do well; the land proves generally unkind and exhausted. The corn market is rather dull, except for dry samples of wheat, which are scarce, and worth 8s. per bush.; good barley 4s. The wheat market for the

last few weeks has been greatly overdone, and prices are low at present. Beef 4½d. to 5d., and mutton 5d. to 5½d., sinking the offal. Parochial rates (which in this county were never very excessive) are lowering, and the opponents of the New Poor Law are gradually silenced. The dreams of the oppression it was to create have nearly vanished; and although the payments to the poor are reduced, yet we have no evidence of any increase of poverty amongst the pauper population. In this part of the country it has been the practice from time immemorial to distribute alms on "St. Thomas" day, the farmers invariably distributing from one pint to one gallon of corn to each applicant. Within our knowledge an accurate account has been kept of the number who applied in former years as well as the present at the same house. This year the number was only seventy two, and in many former years they have exceeded 200. The new law has been in operation here for fifteen months, and, in this instance at least, there is no evidence of greater distress. The change it has produced is, greater exertion on the part of the lower classes to maintain themselves independent of eleemosynary aid of any kind, which is the great object of the law.—Dec. 22.

OXFORDSHIRE.

We have still to report a continuation of the same open, and mostly dry weather we have so long experienced. Having had but little snow, and but slight frosts, therefore the cattle have been mostly abroad in the pastures, and have been doing well with a very little hay; and in very many cases without any where straw has been supplied. It is but rare that cattle and sheep can be kept to advantage in the meadows until Christmas, which is likely to be the case this season. Notwithstanding the genial weather we have experienced the wheat has been observed to lay a long time in the ground, and in some cases comes up but thin. Winter vetches are looking well. Team labour has seldom been in so forward a state, both as respects ploughing and carting manure. Corn markets have not proved satisfactory, barley, of all descriptions, having fallen from 5s. to 6s. per quarter, although the maltsters are now getting generally into work. The depressed state of the market has had a tendency to put many of the labourers out of employ, and the consequence has been, the Union workhouses are filling so fast as to be almost a subject of alarm to the different boards, as well as causing a considerable outlay in providing additional bedding, &c., there being more inmates at this period than there has been heretofore—every week and almost every day is adding to the number.—Dec. 15.

THE SOUTH HAMS.

During the past month the weather has been favourable to the progress of labour. Wheat tillage going forward most favourably, and a greater breadth will be sown this season than last. The potatoe lifting is nearly finished. We are sorry to say that the crop is a deficient one, and scarcely at all shall better that of last year, consequently, the price is advanced from 2s. to 2s. 6d. per bag, of 155 lbs. Turnips of late have grown very much, and there is more grass through the South Hams generally than we have seen in the beginning of December, for several years past. Mangel wurzel is an excellent crop; as are also the Swede turnips; the quantity of hay, too, is considerably more than that of last season, and the quality generally excellent. The

corn crop, is by no means so encouraging, the yielding of the barley is very much complained of, quality is various, the markets are declining, and the very best that can be shewn will not fetch more than 28s. per quarter. The wheat, though somewhat better, cannot be considered an average crop, it comes to hand dryer, and is every respect in much

better condition than could have been expected, considering the abundance of rain which fell from the commencement to the conclusion of the harvest; markets firm, white 7s. 9d. red 6s. 6d. per bushel. Very little cider has been made, price 30s. per hhd. Hay is selling at 4l. per ton; some very prime in small quantities fetches 5s. per lb.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

EXETER FAIR.—The Christmas show was never exceeded, either in the quality or number of the beasts exhibited. The supply of cattle of an inferior quality was of the ordinary description, but the best Christmas beef was readily sold. On the whole it may be termed a good selling fair. There was a numerous attendance of agriculturists and farmers, though but a very few up-country dealers in the fair, and the best animals excited much attention. Mr. SMITH, of Kenn, exhibited a remarkably fine heifer, bred by Mr. Merson, of Sampford Peveril—which was considered by the judges to be the first in the fair, and so great was Mr. Smith's confidence that he offered to kill it against any heifer in the county. It was bought by him last March in Exeter and fed on nothing but grass till within the last few weeks, when mangel wurzel were added.—Mr. ENGLAND also exhibited some excellent oxen, three beauties, which were acknowledged to be the best, but which were not fed in this county, having been purchased in Somerset. One of these noble creatures (the best) was fed we understand, by Mr. Thos. Porter, of Middlezoy, near Bridgewater, a gentleman, who though he stands high as a feeder, stands much higher as a breeder. Mr. W. PIDSELY exhibited five oxen and a martina heifer, of the primest quality, which were immediately sold. We were glad to see that they wore the reform colours. While Reformers get such beef as this they will never fear the Tories.—Mr. JOHN PIDSELY, of Pinhoe, exhibited five beautiful oxen, which were of the very primest quality. Mrs. Pidsley, the mother of these last gentlemen, proved that her sons had been well-trained in the art of rearing beef, by exhibiting four very prime oxen, which were purchased by Mr. Meers, of Heavitree.—Mr. R. PIDSELY, of Sowton Barton, had also two fine heifers. Mr. BROWNE, of Broadgate, exhibited some very fine oxen.—Messrs. DARKE also exhibited some good beasts, as did also Mr. CHAMBERLAIN, Mr. J. MANLEY, and Mr. MANLEY sen.—Mr. ROBERT ROOKES showed a good lot of heifers.—An ox bred and grazed on green food only, by Mr. JAMES QUARTLY Molland, which obtained the premium as working steer at the Exeter Cattle Show, in November, 1835, when many thought him not deserving of the prize, and was surprised that Mr. Q. should have exhibited such an animal; but to convince them of their error, Mr. Quartly determined to graze the steer himself, contrary to his usual practice, as he sends them generally to the Duke of Norfolk. The result to-day has answered his most sanguine expectations, by its being universally acknowledged to be the fattest and completest ox in all his points ever seen in Exeter. He will grace the Christmas stall of Mr. T. BEEDLE North-street.—Mr. DAVY of Weir, produced a very capital lot of heifers.—Mr. BEEDLE had also two fine oxen.—Prices may be quoted at from 7s. 6d. to 10s. per score, but this must be considered the general price rather of good beef, but the extraordinary heifers, such as Mr. Smith's and others, reached nearly as high as 13s. per score.

NORTHAMPTON FAIR was but thinly stocked with beasts, although a great many strangers were in attendance and purchased largely, the trade was brisk in consequence. Of fat beast there were plenty, but

in consequence of the London markets being worse on Monday they met a dull sale. In noticing the sheep fair, we scarcely know what to say, as we did not perceive a dozen pens full of any sort; what were shown were sold. There was a fair show of Downcalvers that met a ready sale at higher prices. We never witnessed a worse fair for horses, indeed, we never saw a worse lot exhibited for sale in this town.

LEOMINSTER GREAT MARKET.—There was a fair show of animals, and fat cattle sold well. The butchers' shops exhibited the finest show of beef ever before seen by its oldest inhabitants. Several of the most eminent breeders and graziers attended the shops of Messrs. Carwardine and Smith, without being able to decide which possessed the best animal.

LEDGBURY FAIR.—There was a tolerably good show of cattle, but owing to the bad weather, there was little business done, the animals disposed of went on the same terms as at the neighbouring fairs.

CALLINGTON CHRISTMAS MARKET.—This market on the 20th instant, was particularly well supplied with fat cattle of every description. The fat cows fed by Richard Doidge, Esq., of Frenodden, Richard Row, Esq., of Lamerton, and slaughtered by Rickard and Box, were of very superior quality. The sheep bred and fed by Mr. J. H. Trehane, of Southhill, and produced by Mills, excited great admiration, and were allowed to be of the finest quality ever seen. The solid fat on the rib measured upwards of six inches in thickness. The haunches were sold at 7d. per lb. and other parts in proportion. Mr. N. Foott's sheep, bred and fed by him, and produced by Philp, were very fine, and but little, if at all inferior to Mr. Trehane's. The others bullocks and sheep were of excellent quality, and the meat market altogether could not be exceeded by any in the West of England.

THIRSK FAIR.—A good supply of fat at this fair, which were readily sold, though prices did not advance. Lean stock without alteration or demand. Calvers scarce and dear. Of sheep there was a good show, but prices were dull, and little doing. Beef, 5s. 9d. to 6s. per stone; mutton, 5d. to 5½d. per lb.

YORK CHRISTMAS HORSE SHOW.—This celebrated mart commenced on Monday, and will continue during the remainder of the week. The show of horses was good, and there has not been a more numerous attendance of south country dealers for some years; in consequence, horses generally fetched very high prices. Those likely to make hunters, brought from 100l. to 150l. Carriage horses and roadsters also in good demand, and prices above the average. Heavy carriage horses were not in request.

NEWPORT FIRST FORTNIGHTLY CATTLE AND SHEEP MARKET took place on Tuesday last, and was well attended by sellers and buyers; the stock of both descriptions was plentiful, and of the first quality, and met with a ready sale. John Cotes, Esq., and many of the neighbouring agriculturists, were present, and expressed their determination to support these fairs; and there can be no doubt, if we may judge from the commencement, that they will continue to flourish and be a great accommodation to the neighbouring agriculturists and dealers. A party of upwards of 50 afterwards dined together at the Royal Victoria Hotel, Mr. Evans, of Hadley Park, (the

Chairman of the committee of management) in the chair. The next fair will take place on the 2nd of January.—*Shrewsbury Chronicle*.

COMBE SAINT NICHOLAS.—This very large stock fair, within three miles of Chard, was held on Wednesday last, to which were driven an unusual supply of fat bullocks of excellent quality. The best beef sold at 9s. 6d. per score, and inferior stock in proportion. The sale of cows and calves was exceedingly brisk, yielding from 10l. to 12l. each. Sheep also fetched remunerating prices, and the supply was abundant.

BROADHEMBURY FAIR was very dull; indeed there was scarcely a quarter of the sheep or bullocks sold, owing to the immense supply that every where exists. There was a very superb heifer in the fair, bred and fed by John Venn, Esq., of Payhembury, and purchased by that spirited tradesman, Mr. Potter, of Broadhembury, who intends to afford his Houghton friends a bit of the best Christmas beef that can be obtained. The prices realized were about 10s. per score for the best fat beef, and some sales were made at 7s. 6d. for inferior quality. The supply of sheep was very large, but not above one in five sold at reduced prices, the highest scarcely reaching 5½lb. per lb.

RUTHERGLEN CAULD FAIR for the sale of horses and cows, was well attended. The show of horses was good, but there were fewer sales effected than at the last Rutherglen Fair. Mr. M'Pherson sold a pair of excellent draught horses at about 70l.; these, we believe, were the highest priced animals in the market. Ordinary and inferior horses were offered at various prices, from 20l. to 30l. Milch cows brought high prices—the best being sold at 12l. to 14l.; ordinary, 9l. to 10l. There were few farrow cows in the market.

PETERBOROUGH.—There was an excellent supply of fat stock on our market. We noticed in particular an ox fed on Earl Fitzwilliam's farm at Marholm, and another fed by Mr. Laxton, of Morborn.

PETERSFIELD.—The annual sheep fair was very fully attended, and much business transacted.

SALE OF MR. WOOD'S FAT STOCK AT YEATSALL.—The sale of the prime fat stock of Mr. Wood, at Yeatsall, Staffordshire, on Thursday last, by Messrs Knight and Son, went off at brisk prices. His fine 3-years old ox, exhibited at Rugeley show fair, which was adjudged at 20 score per quarter, and which took the first prize, was bought under the hammer by Mr. Etches, of Ashbourn, at 56l. 10s.

SPLENDID OX.—At Shrewsbury fair a most beautiful Durham ox was shown. He was bred and fed by E. W. Smythe Owen, Esq., of Condoval Hall, from the stock of Sir George Crewe, of Calke Hall, Derbyshire. His estimated weight is twenty score a quarter; and he was purchased by Mr. Jacob Brown, butcher, of Shrewsbury, for 50l., the seller agreeing to return 2l., should he not (when killed) realise the supposed weight.

EXTRAORDINARY PRODUCE.—A person at Ruyton of the Eleven Towns, Salop, this year planted four potatoes of the sort called "Porkington Forresters," from which were taken up a short time ago, one bushel and a half, weighing 140lbs! An immense produce of the same potatoe was last year obtained by the gardener of W. Ormsby Gore, Esq., M. P. They are reds, in length from 10 to 14 inches, and weigh from 2½ to 3½lbs.—*Ten Towns Messenger*

LONG-WOOLED SHEEP.—At the Cirencester agricultural meeting last week, G. Blackwall, Esq., said he happened to be, some years ago, stopping at Lord Leicester's, and a certain Mr. Walton, a particular good judge of Leicester sheep, was there. Mr. W. was asked by Lord Leicester to specify the district in which he thought the best sheep were to be found; upon which he named that extending from Witney to Cirencester, in which the best breed of long-wool sheep was to be obtained. It happened, a short time afterwards, that a gentleman was sent over to England from the King of Wurtemberg, and it was to this part of the

country he came to purchase the best long-wool sheep. He (Mr. B.) should therefore be most happy to promote the breed of long-wooled sheep, and to see the attention of the committee more particularly directed to that object than it had hitherto been. An observation had fallen from Mr. Reddick, that one advantage of their sheep was their early maturity; at a year and a half old they were fit for the knife. Now, if premiums were offered for sheep two years and a half old, the farmer would be induced to keep them one year longer than it was now profitable for him to do. He would therefore wish to see that premium altered, or a premium given to the best shear hogs.—*Kentish Observer*.

YORKSHIRE AGRICULTURAL SOCIETY.—The first meeting of this new society, to decide the amount of premiums and transact other business, was held in the city of York on Thursday, December 19. There were present Sir W. Cooke, Bart.; Hon. Sir E. Vavasour, Bart.; J. W. Childers, Esq. M.P.; R. Denison, Esq.; Thos. S. Duncombe, Esq.; F. H. Fawkes, Esq.; Rev. D. Harrison (a noted breeder of stock); R. F. Shawe, Esq.; W. C. Maxwell, Esq.; G. Legard, Esq.; Rev. A. Rhodes; G. Swann, Esq.; G. Wentworth, Esq., &c. It was agreed that the first exhibition of farming stock, implements, &c. should take place at York, on the last Wednesday in August, 1838, and it was announced that the second meeting should be held in one of the large towns in the West Riding, acting on the recommendation of Earl Spencer (the president), who stated that, besides the agricultural population which naturally surrounds every considerable town, a great interest is taken in these subjects by the inhabitants of the great towns themselves, and a principle of rivalry between persons in different districts promoted and encouraged. The committee have offered a great number of valuable premiums, embracing the subjects of breeding, draining, new implements, new roots and seeds, the economical rearing, feeding, and fattening of live stock, the arrangement and order of cottages, the encouragement of servants, the improvement of machinery, and for reports on the natural history of the black caterpillar and the wire-worm, with the best means to be adopted in order to effectually avoid its ravages. This society is under the patronage of the Earl of Carlisle, Lord Feversham, the Duke of Leeds, Earl Fitzwilliam, and the Earl of Harewood. The prizes will be open to the whole of the United Kingdom.

At Sir Charles Morgan's Cattle Show, Mr. Francis Hower won a cup value ten guineas, for the best yearling heifer; the Rev. J. R. Smythies won a cup for the best brood mare half bred, and also a cup for the best two-years-old cart colt or filly, got by a thorough-bred horse, bred by and the property of the exhibitor; Mr. Whiting, Beaufort Arms, Monmouth, won a piece of plate value ten guineas, for the best piece, not being less than five acres of Swedish turnips, growing within the county of Monmouth.

Four heifers which were grazed by Mr. R. Cook, of Bechleigh-court, Barton, near Tiverton, Devon, were sold at Tiverton Great Market on Tuesday, the 12th inst., to Messrs. Scott and Oliver, butchers, of Thorvesten. These heifers were estimated to weigh from 46 to 48 score of 20 lbs. each; they were sold at 11s. per score.

Mr. Salter's ox, exhibited at the Chippenham Cattle Show, on Friday, the 8th inst. (for which he obtained a prize) weighed the following morning 1 ton 2 cwt. and 21 lbs.

Amongst the remarkably fine show of meat which was made by Mr. Artindale, at Boston mart, were ten South-down Shearlings, fed by Mr. Simonds, of Fish-toft, the average weight of which exceeded 100 lbs. each. Three two-shear wethers, bred and fed by J. B. Topham, Esq., of Keal, and weighing on an average 176lbs. each were much admired. Two oxen shown by Mr. Artindale excited much attention: one of them was bred and fed by William Loft, Esq., of Trusthope, and the other by John Rinder, Esq.; they were supposed to weigh not less than 110 stones each.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF DECEMBER.

The state of the weather during the past month has been extremely favorable for bringing to a satisfactory conclusion Wheat-sowing in the different sections of the kingdom ; not only has there been an extended breadth of land placed under cultivation with the staple commodity of life, but the earth has been generally in a high state of preparation, and where germination has already ensued and the young blades of corn have "dappled o'er" the surface of the ground with a light but healthy green, all seems indicative of a favorable issue to the future growth. Indeed vegetation is making unusual progress, considering the season, and Christmas-day, instead of being attended with the wanted attributes of dreary winter, frost and snow, was this year ushered in by a genial atmosphere, its mild and sunny character more consonant with the period when nature emerging from its bleak and sterile aspect, begins to clothe afresh the fields and forests, and with creative power making them again smile and teem with life, than the season at which the operations of nature seem suspended, and all vegetative action is locked up in icy fetters. The price of Wheat at the country markets has experienced little real depreciation, the decline being more nominal, which has taken place, and having been more dependent on the existing condition and quality of the grain, than any reduction in its relative value ; nor have the markets been kept in such liberal supply as is customary towards the close of the year, when the smaller farmers have been, in too many instances, for many previous years, obliged to force off their wheats to meet their pressing pecuniary demands, consummating a disastrous year with this final compulsory act of sacrificing their produce below its existing value, having forced down the prices against themselves, occasioned by the momentary influx of supply ; but this not being now the case, is the happy harbinger of better times, and the year we trust having closed on the farmer's exertions, has left the impression on his mind, that with the prices he has obtained for stock, wool and vegetable produce, 1837 has formed a profitable and therefore gratifying contrast with many of the

later seasons, whose reverses are still fresh in his recollection.

In Scotland, the "rent-day" has passed over with less pressure in finding the "ways and means" than had been anticipated and farmers have, in consequence, become less inclined to bring their grain to market, and submit to the chance of the sale with the present languid demand and depreciated value. Wheat remains firm, as well as fine Barley and Oats, but all ordinary samples of summer grain hang heavily on hand, and lower prices have been accepted at the shipping ports in order to effect sales. The shippers of Oats in the more northern ports are selecting with more care, those parcels in condition to stand the voyage to our market, in order to avoid the chance of a similar fate which has attended many of the previous cargoes, that of arriving stale and heated, and materially depreciated in marketable value. We are glad to find that hay and straw are abundant for the winter campaign of the flocks and herds, and that the flocks were seldom known to be sounder at the same season of the year, forming a striking contrast, with the hopes of the grazier at a similar period of 1836, which was one of the worst ever *notched on the shepherd's calendar*. In the vallies there are nearly as many sheep as are found on the hills, and it is gratifying to hear they are so amply provided with provision, not only in the plains, but in every brae face throughout the country. A petition has been presented to parliament for equalizing the duties on raw spirits with those of England ; and we hope that the Scotch distillers will soon be relieved from the grievances of which they complain, and the disadvantages under which they have, according to their statements, to compete against the English distiller. Though there may be *substantial* cause for complaint, yet from the details of the two parties it would appear to be more *shadowy* than *real*.

Both in Scotland as well as Ireland the weather has been extremely fine for all agricultural proceedings, and few seasons have occurred when sowing and the important operations attending

digging and pitting of potatoes have progressed under more happy auspices.

In Ireland the weather has lately been wet and stormy, but as wheat sowing is for the most part concluded, the change is rather favourable for the land, and where germination has proceeded the fields present a good baird. Fine wheat has remained steady in price, as well as barley, and shippers having submitted to a reduction of 3d. to 6d. per barrel on their oats, have been transacting a fair extent of business. In reference to the wheat crop in Ireland, doubts of the abundant produce of which we stated had during the month of November become prevalent, but of which we were even then sceptical, merely giving the reports as we heard them, we are happy to find that our original statements though impugned by interested parties are likely to prove more correct than the later statements, which indicated that the crop of wheat was barely an average, and no flour would be left for export beyond the usual shipments to Liverpool.

In Mark Lane selected dry wheats, both old and new, have met a steady sale throughout the month; but the absence of cold drying weather having been prejudicial to the condition of all grain, and the late supplies of wheat affording little choice of fine quality, has caused quotations to recede 3s. to 4s. for secondary and inferior sorts, and those handling damp and rough, while during the last week of the month, the market as is usual at Christmas being thinly attended, difficulty was experienced in getting the stands cleared, and holders even of the better descriptions were obliged to submit to a reduction of fully 1s. per qr., in some instances even more, on these latter descriptions.

In the demand for bonded corn much more briskness has prevailed, the accounts from the United States continuing to prove encouraging to the exporters of Foreign wheats, holders have in consequence enhanced their demands 2s. to 3s. per qr., and which for fine red Hamburg and Rosstock wheats were in instances acceded to, as the enquiry seems chiefly confined to these qualities, and which obtained at first 30s. to 32s., and then 34s., and are now held at 34s. to 35s., Danzig meeting less attention, being noted at 38s. to 40s, for fine high-mixed and white qualities. The scarcity of vessels is the only check on a considerable extent of business being transacted. We must, however, renew our observations in reference to these speculative shipments; as we are

induced to consider the high rates now prevailing in America as being more nominal than real, as they are not only influenced by the general suspension of specie payments by the banks, but by another cause, which it is proper to state will only be of temporary duration, which is, that acknowledged deficiency of the crop of 1836 had left the Eastern States bare of supplies at the commencement of the last harvest, and they have therefore been short of the due proportion of old wheat of their own growth for immediate use. The supplies from the Westward scarcely ever reach the Eastern markets until the Winter, or early in the Spring, after the re-opening of the navigation; but they will be abundant when they come forward, as it is known that the last crop proved a full average in all the principal wheat districts; and therefore it is essential to keep alive these facts, as Spring shipments from the Baltic are more than likely to end in the same disappointment as experienced in the early part of the past year.

The town flour trade has sustained little alteration, but the supplies of country flour having come more freely to hand, prices have receded 1s. per sack, and the sale heavy towards the close of the month. Bonded flour has been in free demand at improving prices for export chiefly to our Colonies, Danzig superfine being noted at 23s. to 24s. 6d. per barrel, Hamburg, ditto, 22s. 6d. to 23s. 6d. per barrel.

The supply of barley has been large, but fine malting qualities still forming a small proportion of the receipts, and which have maintained their value, but the increased supply of distilling qualities has been met with a fair demand by the distillers, especially stout sweet samples, and which have not declined more than 1s. per qr., but all intermediate descriptions have been disposed of with difficulty at a depression of fully 2s. per qr.; grinding sorts have participated also in the latter decline.

Fine Malt has sustained little alteration, but the sale has been slow, and inferior parcels only to be quitted on lower terms.

The oat trade has been extremely languid, and though the importation has been on a very limited scale, prices have receded fully 1s. per qr., and great difficulty found to tempt purchasers to buy, notwithstanding the stocks on hand and in granary are very short; but the truth is, that dealers and consumers being aware that very extensive shipments have been made from Ireland, and which

have been detained on their passage by contrary winds, are unwilling to purchase until the effect is witnessed of the influx of the article on the market; as also the current month and that of February, the receipts are likely to be liberal, shippers have been on their guard against buying up to the rates of the late scantily supplied market. With Ireland much more business has been transacting free on board owing to the reduction of 3d. to 6d. per brl. in the demands of shippers, and at from 9s. to 9s. 6d. and 9s. 9d. per brl. considerable sales have been made, and which would have been to a greater extent, had the freights ruled less extravagantly high, than from 3s. to 3s. 3d. per qr.

Beans and peas have come more plentifully to hand, and have receded in value, beans, both old and new, being 2s. lower, and inferior foreign 2s. to 3s., but at the decline they have met a fair demand. Boiling peas are noted 2s., and grey and maple 2s. to 3s. cheaper.

The duty on wheat has receded 1s. per qr., being 33s. 8d., on barley it has advanced 1s. 6d., on rye 1s. 6d., but other articles remain unaltered.

The advices from Canada are to the 25th November. Exclusive of the political news, which is of deep import, little interest has occurred in the grain and flour trade, though both articles were held for more money; and reports rife that the last crop was much below an average in quantity throughout the Province of Lower Canada, and from Upper Canada the reports are also unfavourable, particularly as regards the quality. Wheat at Montreal was noted at 7s. 6d. to 8s. 2d. per minot. Fine flour 47s. 6d. per brl. At Kingston flour was advancing, owing to the farmers having kept back their supplies of wheat for higher rates.

Advices from Sydney, New South Wales, note little alteration in the prices of wheat; native qualities obtaining 6s. to 7s.; Hobart Town samples 7s. 6d. to 8s.; and Launceston 7s. to 7s. 6d. per bushel; fine flour being quoted at 21s. per 100lbs. The field labour of the farmers had been brought this season to a conclusion at rather an earlier period than usual, and a considerable breadth of wheat sown, which was growing, and looking well.

By the monthly account published at Paris, of the aggregate average price of wheat throughout France, it appears that on the 30th of November the average value was 17 francs 78 centimes per hectolitre, or about 40s. 6d. per qr., being 15 cents. per hectolitre higher than on the 31st of Octo-

ber; the duties remained unaltered, the lowest ranging at those ports of the Channel and Bay of Biscay most contiguous to England, as Cherbourg, Granville, St. Malo, St. Brieux, Morlaix, Brest, Lorient, and Vannes, where the duty if imported in French bottoms, is now 3 francs 25 cents., and if in foreign 4 francs 50 cents. per hectolitre, with 10 per cent. added. As the high prices of rye are likely to induce a foreign import of the article, it is becoming interesting to be advertised of the monthly duties, and which are regulated in proportion to the average price of wheat. During December the lowest range is at the above-mentioned ports, where foreign rye is admissible on the payment of 1 franc 95 cents. if in French ships, and 3 francs 20 cents. in foreign vessels. The markets for wheat have sustained little alteration, but being kept in more liberal supply, prices are barely maintained; farmers, however show little disposition to give way in their demands, and though slight reductions have been submitted to, yet no material alteration is to be anticipated. The following exhibits the quantity of wheat flour, and grain imported into France during 1837, and the quantity of foreign in warehouse on the 1st of November:—

	WHEAT.	FLOUR.	ALL OTHER GRAIN.
	*Quin- tals me- trique.	Quin- tals me- trique.	Quin- tals me- trique.
Imported during the year ending 31st Oct., 1837.	211,603	20	12,625
Exported ditto.....	31,501	88,838	61,536
Quantity remain- ing in bonded warehouses on the 1st of Nov..	42,453	7,634	4,996
	or 19458 qrs.	14,995 cwts.	
	Allowing 60lbs. to the bush.		

In the Upper Baltic markets the wheat trade has sustained little variation. At Riga, Courish wheat has been worth 25s. 5d. to 28s. 3d. Russian oats 9s. 10d. Crushing linseed in limited stock, and noted at 32s. 11d. to 34s. 5d. At Konigsberg the export trade has been very languid, and the supplies from the farmers extremely limited; indeed, the opinion was prevailing that the growers had not secured to themselves sufficient stock to meet their own wants during the winter, and that therefore, they would be obliged to have recourse to the city's supplies to satisfy their demands. At

* 1 Quintal martique equal to 220lbs English.

Danzig wheat has remained at 32s. to 36s. for fine white, high mixed 29s. to 31s. ; mixed 26s. to 28s. Rye has advanced to 21s. Flour has experienced an active demand, and prices improved, 18s. being noted for future shipment. Linseed 31s., and it appears that from the failure of the crop of rye in Poland, wheat was being taken into the local consumption, which was likely to cause the spring supplies to the ports to be much more limited than anticipated, and it was expected to be found difficult to execute orders for real high mixed wheat in the interior at 30s. ; owners of most of the samples on hand had raised their limits, besides that, a favourable opinion of the trade seemed prevailing in all those parts of Germany which look for supplies to the same sources as those from whence Danzig derives its supplies. In Mecklenburg the markets had sustained little alteration, Rostock wheat was selling at 23s. to 24s. for new, and 25s. to 26s. for old. At Hamburg, owing to the continued demand for America, and some orders being on hand for French account, which, added to limited supplies from the Upper districts of the Elbe, had communicated a better feeling to the wheat trade. Old and new wheats, Upland of 62lbs. have brought 32s., and new Mecklenburg of 62lbs. superior in color deliverable in March, was held at 33s. 6d., and 32s. would have been readily given by the bakers and millers for grinding for export, several contracts having been entered into for delivery. No offers had been received from the Upland for wheat for spring delivery. In Holland prices of wheat have been improving, owing to the demand for America. New Rhenish at Rotterdam was coming to hand of good quality, and weighing 60 to 61lbs. and selling at 32s.

At New York on the 2nd of December, fine Ohio wheat had sold at 2 dollars 10 cents per bushel, and native qualities at Baltimore on the 30th of November had obtained the same rates, equal to about 55s. per qr. At the former City, (New York), the openness of the weather had enabled a large supply of Western Canal flour to reach the city, which had forced prices down 50 cents per barrel, and sales had been latterly made at 9 dollars, but the latest advices intimated that the upper portion of the Canal was closing from the frost. There were several arrivals of Foreign rye, but no sales reported. Native qualities had receded, Northern having sold at 1 dollar 12½ cents. At Baltimore, Howard Street flour remained at 9 dollars 75 cents per barrel. At New

Orleans on the 28th November, flour had receded to 7 dollars 50 cents to 8 dollars.

The following summary of the arrivals and result of the wheat crop in America, during 1835—36, will not, at this particular period, be read without interest. Assuming that the wheat crop is brought to market between the 1st of September and the 31st of August—the following results are furnished, by a comparison of the wheat crop of 1835 and 1836, so far as the comparison can be made, from the quantity coming to the Hudson River, on the Erie Canal, in each of the years referred to, viz. :—

Statement of the wheat and flour left at Albany and West Troy.

	Wheat. bush.	Flour. brls.
From the 1st of Sept., 1835, to the 31st of Aug., 1836 ..	691,906	972,282
From 1st of Sept., 1836, to the 31st of Aug., 1837	430,857	687,658
Showing a decrease of	231,049	284,624

Estimating 5 bushels of wheat to a barrel of flour, and the following results are presented, viz. :—

	Brls.
Flour coming to market on the Canal, from the crop of 1835	1,105,233
Flour coming to market on the Canal, from the crop of 1836	733,829
Decrease, barrels	331,404

This shows a decrease of the crop of 1836, compared with that of 1835, equal to 1,655,000 bushels of wheat. The deficiency of the wheat crop in this State and elsewhere, and the scarcity of vegetable food generally by the failure of all the crops in 1835, has been supplied by a large importation of Foreign wheat and other grains during the winter and spring of 1837. It is perhaps fair to assume that if the importation of Foreign wheat be added to the crop of 1836, it will make it equal in quantity to the crop of 1835. If then the diminution in the quantity of wheat and flour coming to market on the Canal in the spring of 1837, from the crop of 1836, has been made up from importations from abroad, the receipts thus far from the crop of 1837, compared with the receipts by the canal last fall, from the crop of 1836, ought to encourage us to hope, that the extravagant prices of flour exacted last year will not be kept up this season, since there is an ample supply of coarse grains and vegetables. The following is a comparison of the quantity of wheat and flour coming

to market from the 1st September to the 15th November for the last two years, viz. :—

	Wheat. bush.	Flour. brls.
From 1st Sept. to 15th of Nov., 1836	320,596	346,473
From 1st Sept. to 15th of Nov., 1837	285,549	446,043
Decrease	35,047	Incr. 99,570

Estimating 5 bushels of wheat for a barrel of flour, and the comparison stands thus :—

	Brls.
Flour coming to tide water on the Canal for 45 days, in 1837	503,152
Flour coming to tide water on the Canal for 45 days, in 1836	410,592
Increase	92,560

The quantity of flour and wheat arriving at Troy and Albany is equal, at this time, to ten thousand barrels per day, and if the navigation continues through the month of November, the quantity of flour brought to market from the 1st of September to the close of the navigation will not be far from 600,000 to 650,000 barrels.

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BONDED WAREHOUSES IN LONDON ON THE 5TH DEC.

Wheat. qrs.	Barley. qrs.	Oats. qrs.	Beans. qrs.	Peas. qrs.	Rye. qrs.	Flour. cwt.
277,179	10,174	69,801	995	3,816	221	36,869

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th Dec. 1837; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported. qrs. bush.	Quantity entered for consumption qrs. bush.	Quantity in Warehouse. qrs. bush.
Wheat from British Possessions.....	...	975 5	7981 5
Ditto Foreign.....	13382 3	167 1	595977 3
Barley.....	2 2	943 0	38389 1
Oats.....	822 7	370 7	251740 1
Rye.....	973 4	...	12060 5
Beans.....	2359 1	1504 4	4314 2
Peas.....	1769 0	654 5	22425 1
Indian Corn.....	1234 4	361 6	2452 1
Flour from British Possessions.....	2415 3 11	4363 2 22	25054 1 24
Ditto Foreign.....	18876 2 1	30 3 22	144414 1 4

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.	DEC. 1.	JAN. 1.
Wheat, red, Essex, Kent, Suffolk.....	s. s.	s. s.	s. s.
White.....	45 to 57	44 to 56	45 to 56
Norfolk, Lincolnshire and Yorkshire... 40	50 62	48 61	40 54
White, do. do.	46 58	44 57	46 58
Irish Red	— —	— —	— —
Ditto White	— —	— —	— —
Barley, Malt, new	30 33	30 33	30 33
Chevalier, new	35 37	35 37	35 37
Distilling	26 32	24 30	26 32
Grinding	25 28	23 26	25 28
Irish	24 27	22 25	24 27
Malt, Brown	38 44	38 44	38 44
Ditto, Chevalier, new and old	58 62	58 62	58 62
Ditto, Norfolk and Suffolk Pale, do. . 54	58 58	54 57	58 58
Ditto Ware	55 59	55 58	55 59
Peas, Hog and Grey.....	33 35	30 32	33 35
Maple	34 36	32 33	34 36
White Boilers	37 39	36 38	37 39
Beans, small.....	38 40	36 39	38 40
Harrow	34 38	34 37	34 38
Ticks	32 37	32 36	32 37
Mazagan	34 40	34 39	34 40
Oats, ENGLISH feed.....	22 24	21 23	22 24
Short small	24 27	23 26	24 27
Poland	24 27	23 26	24 27
Scotch, Common.....	20 23	20 22	20 23
Berwick, &c.	22 25	22 24	22 25
Potatoe, &c.	24 27	24 26	24 27
Irish, Feed	17 20	17 19	17 20
Ditto Potatoe	22 24	22 23	22 24
Ditto Black	17 21	17 20	17 21

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Week ending 10th Nov.	52 11	50 5	21 2 31	136 7	35 4	35 8
17th ..	54 4	30 11	21 1 28	236 8	35 8	35 8
24th ..	53 7	30 2	21 2 30	837 3	35 0	35 0
1st Dec.	52 6	29 5	21 0 30	436 9	34 6	34 6
8th ..	52 8	29 2	20 8 28	536 1	35 0	35 0
15th ..	53 5	29 2	20 11 30	935 7	34 7	34 7
Aggregate Average of the six weeks which regulates the duty.....	53 3	29 10	21 0 29	11 36 6	35 0	35 0
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	33 8	18 4	15 3 25	9 15 6	16 9	16 9
Do. on grain from British possessions out of Europe.....	33 8	18 4	15 3 25	9 15 6	16 9	16 9

Foreign Flour 20s. 3d. per 196lbs., British Possessions Ditto 3s. per 196lbs.

HOP INTELLIGENCE.

BORO', Dec. 22.

PRESENT PRICES.

Per Sack of 280 lbs.	DEC. 1.	JAN. 1.
	s. s.	s. s.
Town-made	52 to 55	52 to 55
Norfolk, Suffolk, Kent, and Essex ... 40	42 38	42 38
Sussex and Hampshire.....	39 41	37 40
Superfine	42 —	41 —
Lincolnshire, Yorkshire, and Stockton. 38	40 37	39 39
Northumberland, Berwick, and Scotch. 39	40 38	39 39
Irish	39 40	38 39
Extra	42 —	41 —

	£ s.	£ s.	£ s.
East Kent Pockets, from.....	4 4	to 4 15	choice .. 6 6
Bags	4 0	4 10	5 5
Mid Kent Pockets.....	3 10	4 10	5 12
Bags	3 10	4 10	5 5
Weald of Kent Pockets	3 10	4 4	4 10
Sussex do.....	3 6	3 15	4 4
Yearling do.....	3 0	3 10	3 15
Old.....	2 2	2 10	3 3
Old olds.....	0 18	1 10	2 2

The QUANTITIES of FOREIGN GRAIN, FLOUR and SEEDS which have paid duty in the ports of LONDON, LIVERPOOL, BRISTOL and HULL during the current year ending Dec. 9, 1837.

	London.	Liverpool.	Bristol.	Hull.	Total.
	qrs.	qrs.	qrs.	qrs.	qrs.
Wheat, Brit. Possessions.	1758	18509	..	..	20267
Do. Foreign	81902	56255	895	8390	147442
Barley	24422	6213	298	9477	40410
Oats	189199	33485	150	43626	266460
Beans	25733	23806	4093	34561	88599
Peas	15934	15866	388	21338	53526
Linseed	142771	34318	2217	97188	276494
Rapeseed ...	12560	..	..	68773	81333
	cwts.	cwts.	cwts.	cwts.	cwts.
Flour, East Indies	..	23367	..	..	23367
Do. Br. Poss.	..	2125	..	..	2125
Do. Foreign	1454	178	..	..	1632
Cloverseed..	60916	3425	800	28573	93714

both cross and Cheviot wool at fully higher prices, consequently we advance our quotations.

	per stone of 24 lbs.	s.	d.	s.	d.
Laid Highland Wool, from ...	9	3	to	9	9
White do. do.	11	9		12	6
Laid Crossed do.	12	6		13	6
Washed do. do.	15	0		16	0
Laid Cheviot, do.	15	0		16	0
Washed do. do.	18	0		22	0
White do. do.	26	0		28	0
Import for the week	109 bags.				
Previously this year	12506 do.				

A considerable degree of animation was experienced in the foreign wool trade throughout the entire of this week, and in all instances our last quoted prices were readily obtained. An advance of $\frac{1}{3}$ d. to 1d. per lb has been acceded to for Buenos Ayres, Peruvian, and Mogadore wool, and it is with difficulty that the demand for these descriptions are complied with, as holders are keeping their stocks out of the market, awaiting for higher rates, which, it is generally supposed, will be obtained shortly. Import for the week 1,160; previously this year 39,163.

WOOL MARKETS.

BRITISH.

	Per lb.	DEC. 1.	JAN. 1.
	s. d.	s. d.	s. d.
Down Teds	1 3	to 1 4	1 4 $\frac{1}{2}$ to 1 5 $\frac{1}{2}$
Half-bred do.	1 4	1 5	1 5 1 6
Ewes and Wethers	1 1	1 2	1 2 1 3
Leicester Hogs	1 1	1 2	1 2 $\frac{1}{2}$ 1 3 $\frac{1}{2}$
Do. Wethers	0 11	1 0	1 0 1 1
Blanket Wool	0 7	0 11	0 8 1 0
Flannel	0 10	1 3	1 0 1 4
Skin Combing	1 1	1 2	1 0 1 1 $\frac{1}{2}$

WAKEFIELD, Dec. 22.—Extensive sales have been made in all descriptions of combing wools at very firm prices, and as the stocks coming to market are taken off as they arrive, and a further advance if asked and obtained by the grower in the country, it is probable that after Christmas we may have yet higher prices here. Short wool is more ready of sale at a trifling improvement in price.

CHESTERFIELD, DEC. 18.—The trade in all kinds of wool has been rather spirited within the last fortnight, at an advance; but we have to observe, that the trade has again experienced a slight check, the present prices considered quite wavering, and the holders fearful that even the rise will not be sustained. We shall be better able, in the course of a week or two, to say whether or not the trade will maintain its present attitude in respect to price, there being still a large quantity in the hands of the growers, who seem quite disposed to sell.

LIVERPOOL.

WEEK ENDING DEC. 23.

SCOTCH.—We think there has been less business doing this week in laid Highland wool, but the import continues so light that if we had an average demand, we think it would run the fine up, as it is with the rather improving prices of low foreign. We quote our fine higher this week. There has been a more active demand for

SCOTCH.

	Per Stone of 24 lbs.	DEC. 1.	JAN. 1.
	s. d.	s. d.	s. d.
Laid Highland Wool, from.	8	3 to 9	9 3 to 9 9
White Do. Do.	10	9 11 6	11 9 12 6
Laid Crossed Do.	11	3 12 0	12 6 13 6
Washed Do. Do.	13	0 15 0	15 0 16 0
Laid Cheviots	13	0 15 0	15 0 16 0
Washed Do.	15	0 20 0	18 0 22 0
White Do.	22	0 26 0	26 0 28 0

FOREIGN.

DEC. 23.

A steady demand has been experienced for the low qualities of German and Spanish wools, and the quotations have been well supported. The finest descriptions of wool go off slowly, at unaltered rates. Several public sales will take place about the middle of next month. The imports since our last have been very moderate.

Electoral Saxony wool, from 4s. 0d. to 5s. 0d.; first Austrian, Bohemian, and other German wools, 3s. 0d. to 4s. 0d.; second do., 2s. 0d. to 3s.; inferior do. in locks and pieces, 1s. 6d. to 3s.; German lamb's do., 2s. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonesa sheep's do., 2s. to 3s.; Segovia do., 1s. 8d. to 3s.; Soria do., 2s. to 2s. 10d.; Caceres do., 2s. to 3s. 2d.; Spanish lamb's do., 1s. 6d. to 2s. 6d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal sheep's do., 2s. to 3s.; ditto lamb's ditto, 1s. 6d. to 2s. 2d.; Australian, fine crossed do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Dieman's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 4d. to 2s. 10d. per lb.

THE FARMER'S MAGAZINE.

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[Vol. VIII.

THE PLATE.

The description of "Actæon" will be found at page 100.

ON

AGRICULTURAL IMPROVEMENT.

From the termination of the late wars in 1815 down to the present day, no subject has engaged more general attention, or has been more keenly discussed, than the distress brought upon the agriculturists of this kingdom by that event. Few diseases in the statistical world have had the causes so minutely examined or so satisfactorily ascertained and so many infallible remedies prescribed, and yet it is very strange that no cure has been effected. Whether this has been owing to the inveterate nature of the disease, to the enfeebled constitution of the patient, or, what we may very reasonably suspect to be the case, to the utter inability of the physician to apply his remedy, is not very important to enquire; for we know that no cure has been effected, and that the disease if not so virulent, is at least as ulcerous as ever. During the late wars, when the ports of nearly all Europe were shut against us, an uncontrolled issue of paper money raised the prices of produce to an extravagant height—the value of labour and other articles followed—rents rose accordingly, and cultivation was extended to meet the demand. When peace came, prices immediately fell, the commodities of nations coming to be interchanged, could no longer command the former exclusive prices, and the farmers were left in many cases to pay rents and fulfil contracts entered into when prices were double the amount. It must be an easy matter in any state, by an excessive issue of paper money, to raise prices to a great height; but when there is a standard of intrinsic value for reference, and when prices and speculation have reached such a height that no market can be found to afford a remunerative price for articles raised and bought under that nominal value, the reaction must be fearful. Such was the state of the farmers; no market could be found for produce raised under the expence of the paper money; prices fell, and owing to a variety of causes and ramifications, over which human agency never can

have a direct control, the prices of other articles did not fall in a corresponding ratio, and some have not done so at this day. Utter ruin was the fate of many—the rest have gone on losing capital and sinking in means, unless a few late years has relieved them a little, by steadier prices and some reduction of taxation. It would be wholly useless to notice the many different opinions upon the subject and the remedies proposed, for we have had as many cures as essays and orators. The circle of our language has been gone round to find names and designations for causes and remedies, and it is certainly very worthy of remark, that no proprietor or farmer ever thought that any blame lay with themselves, the very quarter where the whole blame attaches. It must have been evident to every sober minded person from the first agitation of the question, that the simple and straightforward remedy proposed and adopted by Earl Grey and others, to adjust the rents at once, to meet the decline in prices, was of all others the most rational and feasible; for simple remedies and direct to the point are ever the most efficacious. If this had been done promptly, the farmers would have been relieved at once, and the proprietors would have been no losers; for a bankrupt farmer must hurt the land, and it must be let at less value, or improved at the owner's cost. Any farmer must scourge the land in trying to raise an exorbitant rent; he goes on as long as he can, and leaves to the proprietor a ruined farm. Rents have fallen of necessity, but by piecemeal, and so slowly as scarcely to afford any relief to the farmer; for generally before it took place his means were exhausted, and he was unable to reap any advantage from it; the prices could not recall the lost capital, being barely sufficient to meet the new rent after the reduction had been made. Many, and very honourable exceptions, however, must be made, and where the proprietors met the prices at once, their own interest has eventually prospered. No sane person can possibly imagine that during a general peace, prices ever can reach their former height, and it is irreconcilable by any process of human reasoning to suppose that high

rents can be paid without high prices. They may be bolstered up to a nominal value, and then they will be beyond the reach of consumers whose means of purchase are drawn from meeting the foreign competitor in the market. None of the remedies were ever put into practice—some were impracticable, and it has gradually come to Earl Grey's proposition at last. Rents have been lowered slowly and reluctantly, and it is still urged that the rent and expences of cultivation are too heavy to allow the farmer the same interest on his capital as can be derived from other speculations. If prices be increased the poor suffer, and the operative cannot buy the bread—if rents be lowered then the landowner does not get due interest on his capital, and is unable to pay the heavy taxation and support his rank in society. In this conflicting and unnatural state of things, the subject underwent much investigation and discussion, but was left always in the same state as before. It is generally admitted that in this highly taxed country, protection against foreign competition is indispensable, by a duty fixed or graduated. Now that the effervescence caused by the collision of so many different opinions and remedies, advanced and supported with all the heated dogmatism of conceit and prejudice, has had time to cool, and now that experience, that great teacher of mankind, has convinced the public that many of the remedies never would be applied, and that others were utterly impracticable, the subject has come at last to be measured by the sober maxims of common sense, and it seems pretty generally admitted now, that an equitable adjustment of rents and an increase of produce afford the only rational method of enabling the farmer to pay rent and expences. A most incomprehensible apathy has all along been evinced by the landowners themselves towards the art of agriculture, the source whence most of their incomes are derived—many have a horror of the name, and with some splendid exceptions, little attention has been paid to the advancement of an art which constitutes the basis of the national wealth. Agriculture precedes every other art; we must have corn, wool, and cotton before manufactures can exist; these arts, therefore, are the consequents not the antecedents of agriculture, though both must prosper better when supported by and mutually depending on each other. The retrograde motion taken by agricultural affairs since the return of peace, owing to the embarrassing state in which farmers were involved, seems now to be gradually forcing more attention, and the agriculturists in general seem to be rousing from their lethargy. If lectures, speeches, and dinners could have done anything for agriculture, it would have been, long ere now, raised to a height almost beyond conception. The currency question has been thrown overboard—the legislature very wisely refusing to sanction any such bolstering scheme. Every year, almost every month, sees a new remedy suggested, and we have lately had a panacea prescribed in a lecture by a Mr. Burges, A. M. of Cambridge, in the shape of a manure proposed to be got from the water and filth discharged by the sewers of London, at present wholly lost. The situation of the metropolis is very unfavourable, but if any manure can be added to those already in use, and in any tangible shape as to expense and application, must always be a valuable acquisition. That it will restore farmers to high prices and the former state of things, is a mere frenzy, and adds another to the long list of remedies held out, never applied, and now for-

gotten. Mr. Burges says, he is sure of reclaiming by means of this manure, 15 millions of acres totally waste, and of rendering productive other 15 millions now only partially reclaimed; but he wholly forgot that if he could increase produce so much as he expected, prices would immediately fall, and farmers would be left in their former state. He has not told us the relative strength and value of this manure compared with others, but calculating on four tons of putrescent dung yearly, to an acre of land, and assuming the medium quantity of 20 millions of acres to be manured yearly, and taking the relative strength of this manure at 4 to 1 it will require 20 millions of tons yearly of this manure to fulfil Mr. Burges' prediction. There must certainly be some mistake in quoting Mr. Smith's evidence of his expence in applying bones, 7*l.* to 10*l.* an acre; the general expence is from 20*s.* to 40*s.*, and I have raised excellent crops on worse land than Mr. Smith's for 30*s.* an acre. Bones are the most valuable auxiliary manure yet known; on light soils and loams they have doubled the value on one crop. The most extravagant passage in Mr. Burges' lecture, is a recommendation to the farmers to steep turnip seed to quicken germination, and then to deposit each seed at the proper distance, in order to save the expence of hoeing. To transplant turnips with success has been found impracticable—to deposit a tender germination must be more hopeless, and the experience of one hour in a dry soil, and in a hot season would be the Alpha and Omega of Mr. Burges' practical farming, and would convince the academic lecturer that if he be A. M. of other arts, he is not master of that. He forgot that weeds might rise to require hoeing. I perfectly agree with him as to the absurdity of the Malthusian doctrine about the increase of population and the want of food. Malthus thought that population depended on subsistence, and that plenty increases population; he knew cultivation only as it exists, fettered by prejudice and restricted by power, but population will find food for themselves if allowed to cultivate the earth, and with 17 cultivated acres we at present possess for each family, and with our millions of uncultivated and reclaimable acres, commons, &c., all such speculations are as idle and contemptible as the reveries of fathers and monks.

If our lands were allowed to be cultivated, we would soon be an exporting country, and instead of sending our labourers to distant colonies, we would not be able to find a sufficient number to cultivate our lands at home. The lectures of Davy added nothing to our practical knowledge, because he had no practical knowledge himself to advance in support; the ponderous volumes and reports of Young lie on the shelves unopened, the bulk shows the labour of perusal, and when brought to the test of experience he was found to be a wretched practitioner. Mr. Burges' lucubrations will share the fate of their prototypes, the books many in number and in name that have been published for the farmer, then vanish and are forgotten. An addition of manure, however, to our present stock as a further means of increasing fertility, will be a valuable acquisition; there will ever be a wide difference between possible and ideal excellence—between speaking and acting—between lecturing in the closet and practising in the field, and such lectures and speculations can only add to the distrust already entertained by farmers against book-farming. Means of improvement are already known to double the produce, and with profit at present prices, for it may be

safely assumed that a full third of our population is half starved; but so long as old systems must be upheld, and prejudice locks out all improvements even in opposition to self-interest, so long must improvements be retarded and knowledge be rendered useless.

In the northern counties of England and over the whole of Scotland there has prevailed a mode of farming called the convertible or alternate system, from the regular alternation of green and grain crops. It has been found that this system pays more rent than any yet known under the disadvantages of lower prices and an ungenial climate. Since the return of peace, the superiority has been more marked, no complaints having been heard from that country, and no demand for committees of useless inquiry. In attempting to account for the superiority of this system, many curious opinions have been advanced, and from real or wilful ignorance of the true cause, most of the reasons given are ludicrous in the extreme. Mr. Paulet Scrope and others have attributed it to exemption from tithes and rates, and in the next sentence they reckon all direct taxes as rent: thus saving any person the trouble of refuting them. The writer of *British Husbandry* says it is owing to unlimited capital and the scientific education of the farmers, and to the banishment of prejudice: he acknowledges the superiority of the system, and then recommends another by keeping one-fifth of every farm in grass, thus confirming the very prejudice, to the banishment of which he attributes the introduction of a better system of agriculture. A more absurd conclusion never went forth to the world, it is well known that England is much the richer country, and enjoys many and great local advantages. But how the convertible farmers were able to divest themselves of prejudices in old times, &c., upwards of fifty years ago, which the writer and others are not able to do at this day, he has either neglected or is unable to inform us. A prejudiced man, and a writer more especially, merely shows the high privilege of reason has been granted them in vain. Mr. Cayley is fully assured the superiority is owing to the possession of one pound notes in making capital more plentiful: but this assumption is completely refuted by considering that prices are lower in that country, and that the produce is brought to England and fetches higher prices than can be got at home. Mr. Cayley should remember that paper notes are not issued in Scotland on the same flummery system as in England; there is capital and property guaranteed by charter at the back of the paper note to pay it in gold or silver on demand. Mr. Gayford, in West Suffolk, has gone north for the purpose of ascertaining the truth of the report well known forty years ago, and it appears his eyes and ears have been, per force, undeceived. He acknowledges the system is superior, and to account for the superiority he has imported one of the most extravagant ideas ever entertained by a human being. He says, the Scotch farmers before sowing a field with any crop send a portion of it to be analyzed by a chemist in order to ascertain if it contain the four gases necessary for fertility. But he has not told us (he could not possibly have forgot to enquire the principal thing required to be known) how the Scotch farmer supplies the gases to the land if the chemist report to him that the gases are partly or wholly wanting. If the means of supplying a want are not available, the knowledge of such want is useless. A long and intimate know-

ledge of the border or convertible husbandry enables me to assure Mr. Gayford that the farmers know nothing of gases; a Northumberland farmer would smile with contempt at the idea of consulting a chemist if his land were fit to be sown with turnips, barley, or oats; when the season arrives with a farmer who has got 200 acres of turnips to sow, there is no time to think of chemists and gases, he is the last person who would be consulted, and never at all. Complete pulverization and cleaning of the land, and plentiful manuring, and thorough draining of wet land is the only gas they know, and the most effectual; too expensive we are told, to be used in England, and therefore must be wanting. "If our landowners," says Mr. Gayford, "would get all our soils analyzed, we would be better able to pay them their rents." Now if a correct analysis of every field on a farm were laid before the farmer, and he was informed that each field wanted a portion of the gases: and if the chemist recommend draining, cleaning, and manuring, these means have been known long ago, and only want execution; whatever remedy the chemist suggested would be rejected on the usual score of expense and because it would not pay. Mr. Gayford has not informed us how gases may be supplied to old turf: but I have here forgot that it never needs any supply, and contains in itself some hidden source of fertility. I never knew a soil analyzed except by some scientific amateur or gentleman farmer, and that only discovered facts already known, that a fertile soil contained so many ingredients, a middling soil another portion, and a very poor soil another; and to deduce a conclusion that such portions of earths, &c., seemed necessary to fertility. Not an acre of land ever was improved by the suggestion of a chemist; the process in the laboratory is much too refined for the operations in the field, and many, and uncontrollable causes interfere to influence the results. Mr. Gayford's opinion will convey to the convertible farmer a piece of information he never before heard of. The great and insuperable obstacle to any improvements in England is the "expense;" and I have often been much surprised that in the richest country in Europe with excellent soil, climate, and manufactures, and in which capital is so abundant for other improvements, a few shillings to improve an acre of land should be so strictly withheld. Mr. Finlayson, than whom there was no better judge in practical matters, asserts that by the use of single horse carts alone, a saving of fifty per cent. is gained over waggons: and it can be shown that a threshing machine and the requisite buildings are cheaper than timber barns at the first outlay, and that it threshes the crop at less than half the cost of flails. If a farmer expend 5*l.* in threshing a quarter of wheat, he can get only eight bushels of grain; and since means are known of producing the result of threshing a quarter of wheat at half the cost usually employed, there is applied a useless expense which should be employed in the increase of produce. It may be held as a leading blunder in any art to bestow labour on a non-productive point, the great desideratum being to produce a result at the least possible cost. The two horse system is applicable to nine-tenths of England, and to the whole of Ireland. In the most fertile districts in England, the ploughing is frightful to look at; a Scotch ploughman would be ashamed of such work at the darkest hour of midnight, and any attempt to do better are too expensive and will not pay. But as Mr. Hillyard observes, if good

farming pays little, bad cultivation must pay much less, and nothing constitutes a better mark of slovenly practice than bad ploughing. The objection of diminution of labour by machinery is completely refuted by comparing two farms of equal size, say 300 acres, and it will be found that where machinery is used most labour is employed, and that there is no poor-house. An excellent feature in the Scotch system lies in paying the farm labourers mostly in kind, and in lodging them in cottages reckoned part of the buildings necessary for the farm. Though the construction and accommodation of these cottages be very deficient yet that is an error in detail not in the principle which is one of the best yet devised. From the above details and others of a similar nature in the practice of the farm, the convertible farmer derives the advantage of less cost in cultivation as shewn in evidence before last committee; and it is certainly very remarkable that these details which constitute the item of less expence, are decried in England as too expensive, and can pay no rent. A threshing machine has both a positive and negative quality, for it is said to diminish labour and at the same time employs too many hands and causes too much expence. The preservation of old turf is so sanctioned by practice, confirmed by authority, and rivetted by power, that any arguments, or even facts against it are wholly unavailing. Nevertheless I never hesitate to assert that the keeping of useless leys and turfs, the want of green crops for winter food, and the consequent want of manure is the leading blunder in the present system of farming in England. With the exception of watered meadows and our prime pastures, old turf is always in a state of decay; and experience has long since proved that more profitable pastures may be got by alternation on all the different fields of the farm. In every lease, however, and in every yearly contract, it is carefully stipulated to preserve old turf; from the good old doctrine that when a system, good or bad, is once established, it must be upheld. Much evil, we are told, has resulted from breaking up leys and turfs; but that has arisen entirely from scourging the land with corn crops, and the want of regular alternation of green crops or fallows, and anything in the shape of a rotation. Leases have proved very favourable to the advancement of agriculture; many arguments are advanced pro and con, but it is contrary to human nature to suppose that any person will convert his capital into perishable stock, and use it on the property of another without a security that he or his posterity have a prospect of reaping the profit. The system of draining introduced into Scotland some years ago, and proceeding so rapidly must be regarded as the greatest improvement of modern times. The landlord and farmer do it jointly; but on the Duke of Portland's estates the draining is done by the landlord, the tenant performing all the carriage and paying the interest of the money, 6s. on the average expence of 6l. per acre. Here is a safe investment for the money, the expence repaid in twenty years regular interest, and the land improved in value above one-third. Green crops are grown in great abundance after draining where no attempts could be made before, and the farmers allow they have four crops in three years, and the draining pays on an average eight per cent. I know an instance of a wet clay soil almost covered with rushes being drained and improved at an expence of 15l. per acre; the green crops were so productive as to repay the expence

in one year, and after deducting the old rent, the improvement pays 14 per cent. on the outlay, and the cattle fed by it were sent to Smithfield. This statement is fatal to Mr. Cayley's one pound notes, and I can assure Mr. Gayford that no chemist was employed nor any applications made to the Chancellor of the Exchequer. The drains are from 20 to 30 inches deep, and at distances of from 12 to 20 feet, sometimes in the furrows of the field, or across, or obliquely, as the descent may suit, and sometimes the land is laid flat. Draining to be remunerative, must be done effectually; a field cannot be drained by putting a drain in a corner, one here and another there; by running one across the field and another diagonally to that, it must be done completely or not at all, for half measures are ever useless. If any person were to propose to expend 15l., or even 5l. on an acre of land in England, he would be stigmatized as a madman, or worse, but as profits are in a direct ratio to labour judiciously expended, the person or persons who expend capital must certainly derive greater profits than those who expend none. The convertible system is nothing more than the application of capital and labour to cultivation under a different system; and the difference between the modes of agriculture, practised in North and South Britain, lies in the method of that application. Under the convertible system, every field has its regular alternate share of cropping and manuring. In England one part of the farm is kept in grass, and must on no account be ploughed, the other pays best by being ploughed and cropped perpetually. The one farmer drains wet lands and adopts every improvement any way calculated to advance his purpose, the other rejects any alteration on certain established modes of proceeding which must not be altered; the one spares neither labour nor expence in increasing the produce, the other will make no expenditure under the belief that any other mode of farming than his own will not pay. In such improvements, however, the land-owner must take the lead, having both the means and the power, if they do not, no great improvements will be generally effected. On no point is improvement more wanted than in the plan and construction of farm buildings, and in the preservation and management of manure. Manufacturers and commercialists calculate profits by the number of articles they can sell; farmers grow a certain quantity of produce by certain means of cultivation, and then apply for a fictitious value to be imposed upon that quantity. There can be little merit in gathering a quantity of produce got by a certain process, and then to impose a value to make it answer a certain purpose, the merit lies in raising produce to answer the purpose, for the profits of the farmer will ever depend upon the number of articles he can bring to market adapted to the wants of the consumers. When the farmers called so loudly for investigation, they called for enquiry into their own prejudices and apathy, for the whole evidence rested on this one point—that those farmers who improve their lands and adopt every improvement in implements and cropping, are doing well and make no complaint, and that those who are wedded to their old habits and reject any alteration are those who complain; and merely because they refuse to use the means which others have successfully done before them. The Cambridgeshire farmers, by calling for high prices, confess their inability or unwillingness to increase the produce, and by imposing a high price on an article above what it will bring in a fair

competition with other produce is charging value of the consumer for a quantity of produce that does not exist. There can be no merit, as I observed before, in ploughing, sowing, and reaping a quantity by a certain process, skill and judgment are shown in raising quantity to meet the demands which the current value of the times has fixed on the land in rent and taxes. So long, however, as any expenditure is so strictly prohibited, and any alteration so strictly rejected, so long must any prospect of improvement be distant and hopeless.

In some observations I lately made on manures, I suggested an idea I have long entertained, that manures must be intimately blended with the soil, for we know enough of the nature of the food of plants, to suppose that it must be in a state of solution and of most minute sub-division. This idea was confirmed in 1827, when in order to finish the dunging of a wheat fallow field in Northumberland, I laid on two acres on one side of the field, a quantity of very rough manure, almost dry straw from the yards in the end of July. It was so unsightly that two extra ploughings and harrowings were applied to cover it if possible. When seed furrowed in October, the dung was broken down and finely mixed with the soil, the braid matted thick and flat, a sure sign of prosperity, and the superiority of the crop was distinctly visible from the day of braiding to that of reaping. To lay rough unprepared dung of all sorts on grass lands, spread it evenly, roll, brush-harrow, and rake off the rubbish, is now acknowledged by practice, much of the benefit derived arising from the warmer temperature produced by the covering. But to lay rough dung, fresh from the yards, on turnip lands, in preparing manures for which so much labour and expense are incurred, will seem a very strange and a very startling doctrine. In the case of a clean wheat fallow field, the dung may be applied early, and there is season to mix it well by ploughings and harrowings, but in the case of turnip lands which requires early sowing, and also several cleanings before sowing, great difficulty occurs. In order to ascertain if dung laid on arable land in an unprepared state and mixed by ploughing and harrowing, will produce green crops equal to a mass of dung lying in a hill, would be an experiment of great value and importance, for if experience confirms the suggestion, it would be an improvement of the right sort, to produce a result at less cost. My own opinion is, that for small seeds, as turnips and rape, it will prove superior; for potatoes, cabbages, and beet, which would seem to require a greater mass of food to rear them, it may appear more doubtful, but even in this latter case experience may determine otherwise, the fibres and rootlets seeking food in all directions. These crops growing on stiffer lands than turnip, might have the land prepared in Autumn, which would much forward the Spring operations, and enable the farmer to plant his crops earlier. Much loss is often sustained from late planting, arising from dry and hot seasons injuring the plants before they have attained strength to resist the rays of the sun, and before they have formed a shade by their leaves to protect themselves against the influence of that scorching element. But on few farms do we see either implements or sufficient strength of man and horse to do justice to the farm at any season. Long and extensive experience has fully satisfied me that a farmer may hire a farm, buy all the implements, and stock, and

plough, and sow, and derive but little benefit; but that unless every exertion be used to procure the means whence produce and profit flow, the farmer will only resemble a manufacturer who erects machinery and then refuses to buy the raw material to keep it in motion. The first and most indispensable requisite is, to fill the land with manure by every possible means, and to keep it in good condition by judicious cropping, and then profits may be confidently expected. A miller must buy the quarter of wheat before he can reap the profits of manufacturing it, in like manner the farmer must procure the means of production, or he will drudge and puddle on as he has done in confusion worse confounded. The Commissioners of Enquiry in Ireland always make the wonderful discovery that the land is rich and only wants cultivation, and after compiling volumes of reports and appendices, and describing and condemning the present system, we find no remedy applied, and matters are left as they were. The people are starving in a rich land for want of cultivation. Then we are told there is a want of capital, but if the earth be cultivated it will produce capital, no capital was created with it, but has flowed from labour and industry. But the important question to be known, why the land is not cultivated, and why, when a system of agriculture trebly productive is known, and is not introduced, remains in respectful silence; the Commissioners being unable or unwilling to inform us. Mr. Blacker has shewn that Ireland could maintain five times the present population—means of cultivation are known, but rendered wholly abortive by ignorance, prejudice, and power.

The latest proposition we have had suggested for the advancement of agriculture, is the formation of a National Agricultural Institution, on the principle of the Highland Society of Scotland. Though it may be very reasonably supposed that self interest would induce the cultivation of any art to its utmost capability—yet it has been found that such societies have been eminently useful, and none more so than the one above named. It may be urged that no society can introduce a system on any extensive basis of action—and that proprietors and individuals can by their own exertions forward the same views and purposes. If landowners generally would follow the example of the Earl of Leicester, and which they may all do in a corresponding degree, the art of agriculture, and their own property would be in a very different situation. The Highland Society combines the whole energy of the landed interest on one point, the improvement of agriculture in all its branches; and adjudges premiums to competitors, in every department of the business. The bare act of distributing premiums would, of itself, effect little; but it causes an intense interest to be taken by gentlemen and farmers all over the country—good articles are introduced and will always bring their own reward. The society is numerous, and its efforts are excellently directed, for no sooner is anything new discovered than it is immediately brought to the test of experience by practical men and the merits made known. Premiums are offered for improvement in every department—and the reports and discoveries are published quarterly, and thus made known over the kingdom. The most formidable antagonist that human reason has to contend with, is prejudice and preconceived opinions, and by some means or other farmers have got more than their due share. Agriculturists are, unfortunately, split into two parties;

the writers on the subject are despised as visionary theorists; the others are purely practical, despising all book farming as sheer nonsense, and bigoted and prejudiced to an extreme. It must be confessed, however, that many foolish speculations having been advanced and refuted have contributed to strengthen and confirm the prejudice entertained against book-farming knowledge, arising from want of as much practical as would have enabled the theorist to judge of the practicability of his system. If the vast wealth and intelligence of the landed interest in this kingdom be concentrated on the point, combining the whole pith and energy of their power to promote the object in view—immense and lasting benefits may be expected to result. Isolated attempts may do some good, an individual by his own exertions may benefit himself, and others may slowly copy him; but such progress of improvement must be very slow, compared with the advance to be expected when encouraged and directed by such a combination of wealth, talent and influence. The formation of such a society, free of political bias, must be hailed as an indication of a new era being about to commence; the names of the noble projectors are a sufficient guarantee that the efforts of the society will be properly directed, for they not only speak about farming, but they practice and know it themselves. I have often been surprised that no previous teaching is reckoned necessary in order to practice farming—we have professors and teachers for all other arts—even the dead languages of Greece and Rome are religiously attended to; while the most necessary of all arts, the art of supplying food and raiment to the human race, which the rudest savages yet discovered learn to practice in some shape in order to satisfy the cravings of nature, and to afford protection against the fury of the elements, is left to be practised by blind chance as undeserving of any further notice. The state of agriculture might have been long ere now greatly improved, had it not been for the unfortunate prejudice entertained by its professors against any alteration in the present system—any attempts being generally upset by prejudice and overborne by clamour. The first thing to be done is to dispose of prejudice, and to create a conviction that improvement is wanted—for without such a conviction, any attempt must be abortive. To attain this object, nothing can be better calculated than the society now in contemplation. Agriculture might also be placed on the level of other arts, by having regularly educated teachers and professors; and farms conducted by the society and the landowners in order to show every modern improvement, and on every possible variety of soil. Such establishments would be highly useful along with the proposed society; for all that can be done in such cases is to recommend in writing, and show by example, and I have no doubt, when the society is once fairly formed, such suggestions will have their attention.

Some two years ago a central society was formed for the advancement of the agricultural interest, by concentrating a formidable array of strength, and thus imposing their suggestions on the legislature. The political nature of the deliberations of this society, and the means proposed to obtain their objects, have completely hindered the most influential of the agricultural body, and many of the most sincere well wishers to agriculture, from having any share in their proceedings.

The name of the Noble President implies extreme opinions, and the very circumstance of pub-

lishing the reports and deliberations in a partisan newspaper, shows the political bias that is mixed up with every proceeding. If Rudkin's machine be so successful as expected, the legislature might see fit to grant relief to other classes as well as to the farmers; and by holding out such remedies, the farmers are confirmed in all their old notions. Two new kinds of manures have been announced—but how they are to be got in quantity, we are not informed; bulk being most essentially necessary in manures, so as to add to the staple of the soil, and I have always understood that it is on this ground that farm-yard manure beats any other yet brought into competition with it. Then we have had Mr. Burge's lecture, and a new method of rearing turnips, and to save the expence of hoeing; and if the society were to leave no other memento of its existence, the name must be long remembered—just as long as many similar boons to the farmer; they vanish and are forgotten. The society proposes, "with the force of incontrovertible evidence to operate in the readiest manner on the deliberations of the legislature," and the Secretary has lately added, "to encourage a widely extended and remunerative productiveness." Now a most anomalous circumstance here presents itself, landowners, agriculturists, and farmers, forming a society, and debating in London, while they will not stir a finger or expend one sixpence in improvements at home—while their lands are undrained, unmanured, and uncultivated, they are debating on the currency and Rudkin's machine.

It might be worth while to inquire if the society show as a specimen of productiveness a piece of old turf covered with weeds, with the veto attached, "this must not be ploughed or densed but remain as it is." Any society founded on any other basis than improvements in the art of cultivation will not be attended with any beneficial result; for party spirit will completely mar any such attempts; and besides, the fair protection of all classes of subjects and of every branch of industry and commerce, belongs solely and exclusively to the deliberations of another assembly. If any good is to be done, therefore, it must be expected from the exertions and encouragement of a society founded on a liberal and comprehensive basis, and wholly free of political discussion.

Though a warm friend to science, I am much inclined to agree with Mr. Hillyard, that agriculture may derive but little benefit from chemistry. He thinks the Highland Society is the nursery of the Scotch farmers; but if the society were to recommend him the use of single horse carts, I doubt much if he would abandon the use of waggons, and adopt the exclusive use of carts, though it is one of the principal points of the superiority in practice. And I doubt also if any farmer would adopt the use of machinery in threshing, or plough up a field of old turf, producing mosses and weeds by the suggestions of any society. Such is the force of habit and prejudice that any deviation from the present established practice is derided and hunted down—and it is so fortified by usage, and riveted by power that a long time will be required in inducing any alteration. For it is one of the great misfortunes of mankind that authority is generally in wisdom one entire generation behind those who are less employed and less conceited. And if a man at any time dares to deviate from the existing team horse system, he is forthwith thrust into the mortar of bigotry and pounded as long as prejudice, envy, and jealousy can wield the pestle.—*Jan. 22, 1835.* J. D.

NATIONAL AGRICULTURAL INSTITUTION.

We devote a considerable space to the insertion of letters and articles upon this subject, from various sources, deeming it to be the most interesting of any now attracting the attention of agriculturists. The benefits which are likely to arise from the establishment of such an Institution, and the probability of its accomplishment, have become the theme of general discussion with those who take the lead amongst the British landowners and farmers, and we are happy in being enabled to state with confidence that the proposition has already met the decided approbation of many influential persons. Such an Institution, to be effective, should be taken up and carried on with spirit and energy, which can only be attained by extensive co-operation. Every landowner and occupier in England should not only feel, but prove, that he has an interest in its establishment, by tendering his own aid, and using his influence with his friends and neighbours.

The Highland Society has just announced the amount of their premiums for this year, 1,751*l*. There ought to be no difficulty in raising three times that amount in England. We entertain not the slightest doubt, but that when the proposition shall become generally known, it will meet with that support which the importance of the subject demands.

BRITISH AGRICULTURAL INSTITUTION.

(FROM THE GLOBE.)

It has long been matter of surprise that, whilst the benefits which agriculture has derived in Scotland from the Highland Agricultural Society are fully acknowledged, no similar institution should have been established in England. We are now, however, enabled to announce that such steps have been taken as will ensure this desirable object, if the promoters meet with that encouragement which all should zealously give who are desirous of advancing agriculture upon sound principles, namely, by improving the system and lessening the expenses of cultivation. At the dinner of the Smithfield Club on the 11th inst., the noble president, Earl Spencer, adverted to the advantages which the Scotch agriculturists had experienced from the judicious exertions of the Highland Society, and stated that he saw no reason why a similar society should not be established in England, to the formation of which he would willingly lend his assistance, upon one condition, without which he considered no good results could be expected, and which was, the entire exclusion of politics. This announcement was received with loud marks of approbation by nearly 300 noblemen and gentlemen interested in agriculture there assembled. The Duke of Richmond, having occasion shortly after to address the club, expressed his full concurrence in the remarks made by Earl Spencer, and stated "that, being himself a member of the Highland Society, he could bear testimony from his own previous knowledge to the great improvement which had been effected, not only in Scotland, but throughout the United Kingdom, by the collection and diffusion of information upon agricultural matters, through the instrumentality of that society. He was a member of several agricultural societies, and being convinced of the good results which arose from them, he would most willingly do everything in his power to assist the noble president in establishing

such a society." The readiness evinced by the Duke of Richmond to promote the object, and the sense of its importance entertained by the persons present, were manifested by the loud cheers with which this announcement was received.

Mr. Handley, one of the members for Lincolnshire, whose zeal in promoting the improvement of agriculture is well known and appreciated, expressed his gratification at finding an object which he had long at heart taken up by the two noble lords, and promised his most zealous co-operation.

The Earl of Scarborough, Lord Maidstone, Lord W. Lennox, R. J. Eaton, Esq., M.P.; C. Hillyard, Esq., President of the Northamptonshire Farming Society, and several other influential agriculturists present expressed their determination to assist in the formation of the society.

We understand that in addition to offering premiums for the objects to which agricultural societies generally direct their attention, it is intended to have correspondents in many parts of the United Kingdom and upon the continent, and to open communication with the agricultural institutions, colleges, and schools, of which there are many in Europe, for the purpose of obtaining early information of agricultural improvements of every kind. Improvements in agricultural implements of every description, and the adoption of those most approved, will be especially encouraged. Arrangements will be made for carrying on regular and systematic experiments upon the application of chemistry to agriculture, from which such important results are anticipated as have led many persons, and amongst them Earl Spencer, to declare his opinion that "agriculture is as yet but in its infancy." In short, it appears to be intended to establish an agricultural institution embracing every department in which practical agriculture can be improved. France has anticipated us in the establishment of a society of this description, and we trust the landed interest in this country will, in the case of this society, follow the advice given to the waggoner in the fable, to "cease to call upon Jupiter, and put their own shoulders to the wheel," and thus extricate agriculture from the swamp in which it has for some time been stuck.

NATIONAL AGRICULTURAL INSTITUTION.

(FROM THE LINCOLN CHRONICLE.)

We have been requested to direct the attention of our readers to a proposal, which was made by Earl SPENCER, the Duke of RICHMOND, and other leading agriculturists, at the Smithfield Annual Dinner, on the 11th inst.—for the formation of an institution in England, similar to the Highland Society of Scotland. It is quite unnecessary for us to repeat here, what we have so often urged, of the utility, the value, the benefit of not only forming Societies in local spots, but of communicating one with another; we have even shown—by deeds as well as words—and by our anxiety to present our readers with the fullest reports of the sayings and doings at these Anniversaries—our conviction of their vital importance. The time *may* come, thanks to mis-government, when Britain, isolated and single-handed, will be thrown upon her own resources; under this idea, we have ever, (in conjunction with politics,) opposed the unfair competition of the foreign with the British market, and (abstract from politics,) the fostering of improvement and emulation among that valuable class, the agriculturists. We are decidedly of opinion, that a *central* institution, as proposed, will greatly assist this important end, because it will provide a more effectual *general* means of imparting the results of *individual* experience; and we are delighted to see that the plan has met with the instant and strenuous support of some of the leading patrons of this department of the national wealth; Lord MAIDSTONE, Earl SCARBOROUGH, Lord WILLIAM LENNOX, Mr. HANDLEY, Mr. EATON, and others, having instantly expressed

their determined and active co-operation with the sentiments of the noble proposer. There was one proviso insisted upon, however, the necessity for which we cannot too strongly urge—that neither politics, nor any matter which may become the subject of legislative enactments, shall be introduced in the proposed society. At most of the *County* associations, this rule is understood, but we fear not always held inviolate; and the consequence is, that many agriculturists become disgusted, and decline attending. An Agricultural Meeting is certainly *not* the place for an electioneering canvass—nor should the name of “the farmer’s friend” be assumed only as a claptrap to gain the affections of this class of electors. We wish the projected central institution, however, every success, because we feel convinced that it will deserve it.

NATIONAL INSTITUTION FOR THE PROMOTION OF AGRICULTURE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Every friend of agriculture will join me in congratulating you, on the prospects there are of the formation of that much wanted institution, a society for the promotion of practical agriculture in all its branches, and seeing you have for some time urged the necessity of the measure, the agriculturists are indebted to you in no small degree.

It strikes me, the object of the proposed institution differs materially from that of the Central Agricultural Society, in as much as it will exclude all questions of a political nature, and direct its attention to:—I. *The encouragement of agricultural literature* by offering prizes for essays, reports, &c., and publishing its transactions. II. *Premiums for new inventions*, likely to be serviceable to agriculture; models of which to be kept in a public museum, and III—*The encouragement of superior breeds of stock*—not the over fed, expensive and useless monsters we so often see exhibited—but animals really most profitable per acre! These principles being constantly kept in view by the society, we shall soon see that its manifest utility, will not only secure it the support of the friends of agriculture throughout the country, but will render it an institution of incalculable benefit to the farming body at large. It is unnecessary to say that in Yorkshire, we approve of this object—our recently formed society, already possessing annual subscriptions to the amount of 229*l.*, and donations to 525*l.*; its premiums are offered for “draining, new implements, new roots, and seeds, laying, arable land, road making, insects noxious to agriculture;” as well as for live stock, and so far from being jealous of our neighbours, I trust we shall be glad to fall in with their plans, and work together.

Let me exhort the agriculturists in all parts of the kingdom to aid the great work, and follow in the train of those excellent men, who have promised their aid, and thus endeavour to make it indeed a National Institution,

Yours, obediently,

Yorkshire, Dec. 26, 1837.

W. E. M.

NATIONAL AGRICULTURAL INSTITUTION.

We give, in another column, an extract from the *Farmer's Magazine* for the present month upon the subject of the contemplated association for the advancement of agriculture. We are happy to state that there is now as little doubt of such an association being successfully established, as there can be of the great benefits that will result from it. Even supposing that Earl Spencer's expectation of seeing the practice of agriculture enlightened and improved, by the application to it of the sciences of chemistry and botany should be partially disappointed, yet the existence of a society, through which the enterpris-

ing farmers of England may communicate to each other the results of their individual experience, will be of incalculable advantage, for the general improvement of agriculture throughout the kingdom. It will be the means of embodying the information of all, for the benefit of each. The agricultural knowledge which now lies scattered in scraps over the country, will be gathered together, as it were in one volume, for the perusal and instruction of all who desire to benefit by the discoveries of others. Indeed, in visiting the several agricultural districts of England, we have constantly been surprised at the ignorance which all of them have hitherto displayed, of the improvements made, the errors corrected, and the prejudices removed, in every quarter but their own. This has arisen from the want of some efficient organ of correspondence; and we repeat, that the association in view, if it supplied no other desideratum than this, would do a service to agriculture which the most sanguine can hardly calculate too high. But when we remember that the whole process of vegetable production is nothing but a succession of chemical changes; and that the virtues and the habits of the vegetable world are only to be detected by botanical research, we confess that we see in the establishment of the association, a new era in the history of agriculture—we see it, (as Lord Spencer beautifully expressed himself,) emerging from its infancy, and first beginning to understand, and to use those instruments and appliances, by which the physical man, as he progresses, in vigour and intellect, learns to facilitate his own labours, and assist the operations of nature. Why should not the farmer study the varieties of the several species of a grain, and the adaptation of particular soils, as well and as successfully as the horticulturist?

Sir Humphrey Davy, though perhaps rather fanciful in his way, saw clearly what *might* be done by chemistry to agriculture, when aided by practical observation. “For the uses and comforts of life,” he was wont to say, “chemistry may be more beneficially employed upon a dunghill than upon a galvanic battery.” We remember a conversation we had with him when at school, and as the anecdote and illustration are apt to the purpose, we will give it, as nearly as we can, *verbatim*. “You will allow,” we observed in prosecution of an argument in which he playfully indulged us, “you will allow that the schools of Plato and Aristotle, were at least enquirers after the truth?” “Yes,” he replied, “but in a wrong direction. I am rather inclined to think that old Æsop was the only good chemist of the ancients.” “How so?” was the natural query. “Why,” said he, “you remember the fable of the cock who found diamonds under the dunghill without knowing their value. I suspect he intended to satirise the farmers of his day in the person of that stupid bird; for it is in the dunghill that the farmers would find wealth more than the mines of Golconda could supply, did he but know the precious store when he saw it. Chemistry alone can initiate him in the art of detecting it.”

While on this subject we will hazard a suggestion which has been made to us by one of our zealous and scientific agriculturists. It is, that it may perhaps be found advantageous not to hold the yearly meetings of the association *always* in London, but periodically at other conveniently situated places, such as Northampton, York, &c. The British Association for the advancement of science have found this plan to work very admirably, and (not presuming that there may be no obstacles to it in the present case,) it is at least worthy of consideration.—*London Paper.*

THE PROPOSED NATIONAL INSTITUTION.

SIR,—The object you have in view I consider of such importance, that I shall experience sincere pleasure in hearing of it being carried into execution. In such a nation as England, a national agricultural society would contribute more to general prosperity than any institution with which I am acquainted. It will tend to unite into a firm chain, the different links of local establishments. We are now looking forwards, from railroad arrangements, to such an increase of commercial and agricultural intercourse, as to enable every person to receive the reward of his industry, and a more equal distribution of comfort and happiness. In remote villages in Wales, in Scotland, and particularly in Ireland, have agricultural improvements made slow progress. We look forward to the period arriving when every inhabitant of the British Dominions may compete with his fellow countrymen, and be equally enabled to bring his produce into a remunerating market. Such are the expected results that must arise by a quick and cheap communication to all parts of the United Kingdom. These branches, radiating in all directions, require a concentrating focus to reflect with equal energy, and thus double the advantages acquired. The national institution proposed in your journal would, in my opinion, constitute this important object, by uniting into one point the results of the Empire.

All the advantages from any local culture would thus be generally known, and the probable benefits to be derived from its introduction into other districts would, by the establishment of good principles, be ascertained.

Partial as I am to chemical pursuits, and having for more than twenty years held the situation of honorary Professor to the Bath and West of England Society, I have the greatest pleasure in stating, from the very interesting experiments lately made at Geneva, where I had a cottage on the borders of its beautiful lake, that the science of chemistry may be most advantageously employed in the extension of agricultural knowledge. It has been considered by many professional gentlemen that chemical investigations cannot be satisfactorily employed in the explanation of any phenomena resulting from the agency of life; it is universally admitted that every species of organic matter, whether vegetable or animal, acts by laws unknown to the chemist; he confines his attention to the product, where the operations of the vital principle have terminated. By what process the gastric fluid is produced eludes all enquiries—when the secretion has been effected—when in one portion of the stomach, and in ruminating animals the two first stomachs, only sub carbonate of soda is found, and in another portion of the stomach, or the fourth of ruminating animals, only the hydrochloric acid appears; then the future changes are explanatory on chemical principles: the alkali is the natural solvent of almost the only nutritious principle, viz: albumen, in both animal and vegetable matter, and the acid answers a subsequent important chemical change. I avail myself of slightly noticing that with respect to agriculture, nothing ought to be admitted as a manure unless it possesses the recrement of animal or vegetable matter, that pure earths do not appear to enter into the composition of a vegetable, they principally act mechanically, as the earths possess different retentive powers for water; in all chemical examinations of the soil, this constitutes an important part, and is materially influenced by

meteorological causes. The Swiss botanists have taught us how much may be done with respect to rotation of crops. To what a small portion of this country are these discoveries known; I contemplate great results from the formation of an agricultural institution, having for its object the collection and speedy diffusion of agricultural knowledge. If I may be permitted to compare it in principle to the creation so beautifully described in the first chapter of Genesis, that on the first day the principle of light was detached from the chaotic mass, and on the fourth the brilliant luminary the sun was destined for its regulation; so agricultural materials exist, ready to be brought into productive action by the agency of an ably conducted national institution.

Your's sincerely,

Bath, Jan. 3, 1837.

C. WILKINSON.

THE PROPOSED AGRICULTURAL INSTITUTION, AND THE CENTRAL SOCIETY.

SIR,—It is impossible to be an uninterested observer of the correspondence and articles which have appeared in your Journal, relative to the proposed National Institution of Agriculture, since it was mooted by Earl Spencer and the Duke of Richmond, at the Smithfield Club dinner. The arguments for and against the project, you have very faithfully laid before the public, and a few more weeks will decide whether we shall have the Institution formed or not. On one subject however, all seem to agree, and all must agree—the utility—nay the necessity, of doing something more than has already been done, to encourage agricultural improvements. The question however is, whether a new society shall be organized, or whether the society at present formed, is sufficient to meet the wants of the agricultural world.

I am not one of those persons Sir, who think that the agricultural body will do best by maintaining silence on every subject, affecting their interest which may be brought before the legislature; neither do I think that the organization of a body so isolated as the farmers, is either uncalled for, or useless, and farther still, am I from deprecating all centralization of the political influence of the agricultural classes.

These remarks made, it will be seen I have no antipathy to the Central Agricultural Society—indeed I belong to a society which subscribes to it, and therefore may be said to be in connexion with it; my mind certainly is not made up as to some of the questions it has entertained—the currency for instance—but I think it is highly important, that there should be some uniting centre to cement the scattered associations formed for political objects. But Sir, useful as the Central Society may be, it is not the only one wanted to meet the exigency of the present state of agricultural competition. We want one which will encourage the science and practice of agriculture—some one in which men of all opinions can unite, to aim at raising the largest possible amount of agricultural produce, at the smallest possible expense.

I conceive these objects are quite distinct—that they have no connexion with each other, and that any attempt to unite them will soon appear an impracticable delusion; and how the existence of two societies can divide the agricultural body I cannot imagine, seeing their objects, operations, and character, are as different as if they operated upon two distinct classes of the community.

For instance Trades' Unions are established by

the operative classes, and I offer no opinion on the utility of these combinations; but who ever heard the terrorists object to Mechanic's Institutes, on the ground that they would divide the attention of the operatives. The case is parallel!

But Sir, the question arises, does the Central Society comprehend both these objects? I reply *it cannot*, such a supposition is too chimerical even to be entertained for one moment. And while it is far from my wish to disparage that society, I must say *it evidently does not*. Where are its Prize Essays—its Report of Management—its treatises on practical and scientific husbandry, or its correspondence? Where its agricultural implements, its new and valuable seeds and roots? Where its exhibitions of stock? If it had aimed at these objects, why not have made a commencement? Why not offer at least one premium in each branch of competition—if it were but nominal?

They speak of Rudkins's invention, and Kimberley's manure—let them have all the credit but what I repeat have they done to collect and diffuse agricultural information—where are the transactions that we may judge whether it has acted upon a principle which its friends profess it to embrace?

I trust that the proposed society will be formed, and well supported by the friends of agriculture, and let the Central Society continue its labours, and not divert its attention from the exclusive object for which it was formed.

Yours, obediently,

CERES.

NATIONAL INSTITUTION OF AGRICULTURE.

TO THE EDITOR OF THE YORK CHRONICLE.

SIR,—The present is a critical period in the annals of agricultural competition. The evidence taken before the committee of the House of Commons on agricultural distress, established the fact, that the Scotch agriculturists are far before the English in their operations, and the scientific and economical management of their soils; and the enquiring observer at once reverts to the question, how was this effected? Without difficulty it can be referred to the stimulus given to enterprise, activity, and enlightened management, by the operations of the Highland Society of Scotland.

The feeling of the importance of collecting and diffusing agricultural information, is rapidly spreading, and an institution has been organised in France, having for its object the improvement of agriculture, which is supported by the national funds. The time, therefore, is come when the English agriculturists should unite, and form a National Society, which, by its essays, reports, correspondence, and premiums, would keep alive an active spirit of competition and improvement in all the classes interested in the soil, from the day-labourer to the extensive landowner.

The subject has been mooted at the Smithfield Club dinner, held last month, by Earl Spencer, and supported by the Duke of Richmond, and other celebrated friends of agriculture, and received by all present with the warmest expressions of approval. The intention is, that the society shall exclude all political discussions from its meetings, and direct its attention to practical agriculture *only*, and in general follow the comprehensive, liberal, and intelligent plan of the Highland Society. Thus, if three persons, standing high in intelligence, in practical attainments, and in warm attachment to the farming interest, are supported by the friends of agricultural improvement throughout the country, there can be no doubt of its giving an impulse to the application of science to the cultivation of the soil, which will raise it far above its present character.

The writer of this has been favoured with a list of the

highly respectable and scientific, as well as practical men, who have already testified their approval of the object of the proposed institution; and before the ultimate arrangements are made, its friends are anxious to see how the plan is received by the agricultural world.

I trust they will echo from one corner of the land the feeling which pervaded the Smithfield Club dinner, and that the institution will be established under the most favourable auspices.

W. E. N.

PROPOSED AGRICULTURAL SOCIETY.

[An answer to this letter, by a person who subscribes himself "Cultivator," follows next in order.—ED. F. M.]

(TO THE EDITOR OF THE MORNING CHRONICLE.)

SIR,—Having read this day an article in your paper relative to Earl Spencer's proposal at the Smithfield Cattle Club dinner, for forming an Agricultural Institution on the principle of the Highland and Agricultural Society, I take the liberty to request the insertion of the following remarks, as there can be but one opinion that any division of the agricultural body would tend to incalculable mischief, while the more perfect concentration of that interest would benefit the whole community.

The principle of centralizing the local agricultural associations in the metropolis has been successfully acted upon for more than two years past by the Central Society, and the good effects of that success, though not generally known, may probably have suggested to Earl Spencer and the 300 noblemen and gentlemen at the Smithfield Cattle Club dinner the utility of still further extending the principle, to benefit equally the whole of the agricultural classes in the United Kingdom. In a word, the chief object of the Central Society is, to effect the cordial co-operation of all parties for the general good of agriculture and the nation at large, by those measures only which are best calculated to insure unity of purpose and action, that purpose including agricultural improvement to the fullest extent, as well as the encouragement of all who may contribute by their labour and talent to promote rural and domestic economy in all its branches; while, as regards other producers, the motto of the Central Society is, *Live and let Live*.

The Central Society has no splendid establishment to give an outward show of importance to its proceedings, but it has many of the most distinguished noblemen enrolled as members, besides more than forty baronets, seventy members of Parliament, sixty local agricultural associations (including several thousand farmers), and about four hundred landowners and occupiers.

It is said by those who are willing not to know much of the society, that it is purely *Conservative*. But the fact is quite the reverse; for had the society been formed to promote the views of that party alone, those noblemen and gentlemen who are known to steer quite a different course in both houses of Parliament would never have joined it.

Among the benefits which have resulted from the combined exertions and vigilance of the Central Society may be noticed the fact that two discoveries have already been brought forward by that body which are calculated not only to confer great advantages upon the agricultural classes, but also upon every other interest in the state whose welfare more or less depends on the prosperity of the former.

The first is Mr. Rudkin's invention for better securing the spirit revenue. Of this discovery it may only be necessary to state that the Lords of the Treasury most willingly complied with the request of a deputation to the Chancellor of the Exchequer, chiefly composed of members of the Central Society, to fit up a distillery at the public expense, for the purpose of trying the invention upon a scale sufficient to satisfy scientific and practical authorities. The superintendence of the experi-

ment was confided to the charge of Dr. Birkbeck, and the result has proved completely successful, the discovery being, in his opinion, calculated, with other arrangements, to enable the government gradually to dispense with the malt-tax.

The other discovery is one of equal importance to the landed interest and the country at large; it is a manure which any farmer or cottager can make in any quantity upon his own premises, and even in the very field where he may require to use it. In quality and durability it is superior to stable manure, and saves three-fourths of the cost, being equal in some situations to the whole rent of the land. In fact this invention will afford the most substantial relief to agricultural distress, while it will render the United Kingdom independent of foreign countries for the best manure, and in a few years for corn also. Mr. George Kimberley, an experienced and scientific agriculturist, who occupies a farm of 500 acres at Trosworth, near Egham, is the author of this great improvement, and the disclosure will be made through the Central and Local Societies, for the benefit of all the agricultural classes simultaneously.

So confident, indeed, was the late Duke of Gordon, president of the Highland and Agricultural Society, that if once the principle could be acted upon for centralising the agricultural body in the metropolis, it would become the medium for encouraging and communicating the most important benefits to agriculture and the nation at large, that the noble president and many other leading members of the Highland Institution, including Sir Reginald Macdonald Stewart Seton, Bart., the active secretary for twenty-five years, and now the honorary secretary, were among the earliest to enrol themselves as members of the Central Society.

These facts are sufficient to show that the Central Society has already sown the good seed for an abundant harvest, and therefore it is the more necessary, in the formation of any new agricultural institution, that care should be taken *not to split against the rock of division*, as this would defeat the good intentions of Earl Spencer, the Duke of Richmond, and others; destroy all the advantages which a more perfect system of centralization might secure, and inflict the greatest injury upon all the producing classes.

AGRICOLA.

London, December 30, 1837.

PROPOSED AGRICULTURAL SOCIETY.

TO THE EDITOR OF THE MORNING CHRONICLE.

SIR,—I read in your paper of this day a letter signed "Agricola," containing some remarks upon the Central Agricultural Society, and also upon the new Agricultural Institution which has been proposed by the Duke of Richmond and Earl Spencer, and as the statements made therein are calculated to mislead both you and your readers, I trust you will permit me to make a few observations in reply. The Agricultural Institution proposed by the noble lords, above named, will be based upon the principle of the Highland Society, which has in an eminent degree promoted the improvement of agriculture in Scotland, and will also embrace some further objects, which I cannot describe better than in the language of an article which you extracted from an evening paper a few days since.

"In addition to offering premiums for the objects to which agricultural societies generally direct their attention, it is intended to have correspondents in many parts of the United Kingdom and upon the continent, and to open communication with the agricultural institutions, colleges, and schools, of which there are many in Europe, for the purpose of obtaining early information of agricultural improvements of every kind. Improvements in agricultural implements of every description, and the adoption of those most approved, will be especially encouraged. Arrangements will be made for carrying on regular and systematic experiments upon the application of chemistry to agriculture, from which such important results are anticipated as have led many per-

sons, and amongst them Earl Spencer, to declare his opinion that 'agriculture is as yet but in its infancy.' In short, it appears to be intended to establish an agricultural institution embracing every department in which practical agriculture can be improved."

These are the objects to which the energies of the new Agricultural Institution will be directed. In order that the proposed institution may not "split on the rock of disunion," as "Agricola" has it, the noble president of the Smithfield Club, Earl Spencer, stated emphatically that discussions upon politics and all matters which might become subject of legislative enactment should be strictly excluded at its meetings. This has always been the rule of the Highland Society, and without the observance of which it never could have effected so much good. The Central Agricultural Society was, as "Agricola" truly states, established for the purpose of "centralising the local agricultural associations in the metropolis," to insure unity of purpose and action, and the avowed object was the formation of one great union, not for the express purpose of effecting improvement in the *art and practice* of agriculture, but for obtaining relief from agricultural distress through the interference of the Legislature. The Central Agricultural Society was in fact, and was intended to be, a grand agricultural political union. Political questions were constantly agitated at its meetings, until at last the noble president of the society, the Duke of Newcastle, was induced to express his apprehension lest "the society should become a debating club."

The Central Society has "split against the rock of disunion." Several of its members seceded in disgust, and it now exists but in name. "Agricola" says it has been successful, "although the good effects of that success are not generally known." Now, the only "good effects" that I have ever heard of were the "effects" paid into the bankers by the subscribers, to the extent of 1,000*l.* in one year, the whole of which was spent, and a debt of some hundreds besides incurred, without one shilling ever having been given for promoting the improvement of agriculture in any shape. The Highland Agricultural Society, the Bath, and some other societies refused to co-operate with the Central Society, disapproving the course which it proposed to pursue. One of the honorary secretaries, who was active in its formation, stated his object to be the formation of a political society. Should these statements be doubted, I will refer to the columns of *The Morning Chronicle*, and other daily papers, at the time when the society commenced its operations. It is now rumoured that the society has seen the errors of its ways, is truly penitent, and is willing to exclude the discussion of politics. Now, sir, I never did ascribe much value to a "death-bed repentance;" but let us see how the matter really stands now. The secretary makes weekly communications to *The Old Bell's Messenger*. In an article in that paper on Monday last, headed "Central Agricultural Society," after having ingeniously introduced the names of Earl Spencer and the Duke of Richmond at the commencement, thereby seeming to connect these noblemen with the society, he quotes from what he calls "a well-defined Address on the Objects of the Society." The following is an extract: "The main object, then, of the Central Agricultural Society will be (through its connection and good understanding with the local associations) to promote a unity of purpose in the agricultural body, and to give such a direction to the general expression of that purpose as may, with the force of incontrovertible evidence, operate in the readiest manner on the deliberations of the Legislature."

This was the object of the society at its formation; this is its object, as described by the secretary himself on the 1st of January, 1838. Will the British agriculturists permit themselves to be thus gulled and deluded any longer? But the society has brought forward Captain Rudkin's machine, and the report of the malt-tax is held out as bait No. 1, and Mr. Kimberley's newly discovered manure as bait No. 2 (*the annual subscription is in course of collection*). If Captain Rudkin's machine be found to answer its intended object (but it should be observed that Dr. Birkbeck has not yet made

his report), the government will give the full benefit of it to the country without the interference of the society. If Mr. Kimberley has really discovered a new and valuable measure, it looks somewhat strange that there should be no mode of communicating this discovery to the agricultural world but through the Central Society. Let the agriculturists look up for support from, and rely upon, such men as the Duke of Richmond and Earl Spencer, who will neither delude nor suffer a delusion to be practised upon them. Let them lend their zealous co-operation in establishing an agricultural institution upon solid principles, and they will speedily experience the advantages. Your obedient servant,
Jan. 2, 1838. CULTIVATOR.

PROTECTION TO AGRICULTURE— OPINION OF THE EARL OF DARLINGTON.

SIR,—I take a deep interest in the success of the "Agricultural Institution" proposed by Earl Spencer and the Duke of Richmond, and of course have read with attention the correspondence which has appeared in your paper upon the merits of the Central Society, and the necessity of forming a new Institution. The main object of the Central Society, as put forward by its advocates, is the union and centralization of the Agricultural body for the purpose of *protecting its interests* against the machinations of other parties in the State supposed to be hostile to it. Thinking that perhaps you may not see the Shropshire papers, I have copied a letter which appeared in one of them, from the Earl of Darlington, and send it herewith. The Noble Earl is, I believe, one of the Vice-Presidents of the Central Agricultural Society, and as the objects of that Society are similar to those of the Shropshire Agricultural Association, which forms the subject of his Lordship's letter, the opinions therein expressed are of equal force in both cases. The sentiments of a conservative Nobleman, ranking as high as the Noble Earl does, heir to one of the largest landed estates in the kingdom, President of the Shropshire Agricultural Association, and Vice-President of the Central Society, must command attention.

Hoping you will deem it worthy a place in your columns, I remain, &c., your obedient servant,
A SHROPSHIRE FARMER.

TO THE EDITOR OF THE SALOPIAN JOURNAL.

SIR,—Having taken notice of a public letter addressed to me by an anonymous correspondent, through the medium of your Journal of Wednesday last, being dated January 10, and presuming that it is intended to elicit from me some kind of reply to many of the queries contained in it, I must ask your permission to permit me to reply through the same channel of communication in a letter addressed to yourself.

It appears to me that the writer of this letter describing, I make no doubt, the sentiments and opinions of a large proportion of the members of the Shropshire Agricultural Association, has two objects in view in thus addressing me, the first being to point out the inutility or inefficiency of the present association for the encouragement and improvement of agriculture; the second having for its object, the establishment of a new one, upon the principle of the Liverpool and Highland Societies. I am perfectly ready to admit the justice of the writer's remarks, as to the inutility of the present associa-

tion for the objects specified, but I must also, with due submission, put him in mind that, when the present association was formed, and when the members of such association did me the honour of appointing me as the president, it was formed with a political object *alone*, namely that of establishing a union to act in self-defence as a counterpoise to the adverse spirit of the times prevailing against agriculture at that period in no small degree. The formation therefore of this society did not proceed from any hobby of my own, nor was it established at my suggestion; but when formed I was appointed as president, not in my private capacity as a landlord or proprietor in the county of which I am neither one nor the other, but in my public capacity as one of the members for the county. *Fortunately however the times have now improved; that overwhelming distress which subsisted for many years in succession has now very much subsided; and the friends of agriculture in the imperial parliament have proved themselves to be too powerful for their enemies.* These circumstances combined, have in my opinion mainly contributed to the degree of apathy, shewn by the non-attendance of members during the two last years at our annual agricultural dinners; and as my anonymous friend (for so both from his style and manner I must designate him) very truly observes, that not the slightest interest is now taken by its members in keeping alive the present agricultural association, however I may regret it, yet I cannot but think it better under such circumstances that the association should be at once dissolved than die a natural death, and I purpose in the course of the present year writing them a letter to that effect.

With regard to the second object in view, namely, that of forming a new association on the principle proposed, and which is totally distinct from the other, I have only to say that I think much benefit may be derived from it, that it is well worthy of encouragement, and shall be glad to give it my individual support in conjunction with others; at the same time, as I am not a practical farmer, and not being, as I have already stated, either a landlord or a proprietor in the county of Salop, I must for these reasons object to taking any prominent part or to act as president of this new association; nevertheless when formed, I shall be perfectly ready to co-operate with others and lend every assistance in my power towards the fulfilment of its objects.

With these few hasty remarks I will now conclude, and I trust it is needless for me to add that in accepting the office of President of the Shropshire Agricultural Association, and in the part I have felt it my duty to take as chairman upon different occasions, I have been actuated by no other motive than that of endeavouring to promote the general welfare and prosperity of the county, coupled with the best interests of the farmer, who as he has ever been so will he continue to be the special object of my care and solicitude.

I have the honour to remain,

Your obedient humble servant,
January 11, 1838. DARLINGTON.

AGRICULTURAL ASSOCIATION.

(FROM THE SUSSEX ADVERTISER.)

We are glad to learn that the plan proposed by Lord Spencer and the Duke of Richmond at the last Smithfield Show, for the establishment of an English Agricultural Association, has been generally received with great

satisfaction. The objects of the intended Society would be similar to that of the Highland Association, namely, to encourage and diffuse such knowledge as shall most tend towards the practical advancement of the art; to give rewards and premiums; to open communications with foreign schools of Agriculture; and become a kind of general head to the Societies that have been already established. The very best feature of the plan is that the Association is not to be a political one. To be useful, and to be generally supported, a Society for the advancement of knowledge in any department of science must be founded on this plan. Let the agriculturists form Conservative associations and Whig associations, if they will, but let not a difference of political opinion prevent any from attaining that increased skill in the practice of his business which combination is sure to induce.

No Society for the advancement of agriculture, which has political objects can succeed. The "Central Association" is a decided failure, and our readers cannot fail to observe even in this county that the success of many of our meetings for the encouragement of skill in agriculture, is greatly endangered by their being made the arena of party squabbles between rival candidates and their friends.

AGRICULTURAL ASSOCIATIONS.

(FROM THE HERTS REFORMER.)

We borrowed last week an admirable article from the *Mark Lane Express* respecting the formation of an English Agricultural Association, of which Lord Spencer, and the Duke of Richmond, are likely, we hope, to become presidents. In every word that is said by our able contemporary respecting the advantages to be derived from such an institution, by the occupiers, as well as the proprietors, of land, we concur entirely. The existence of these associations is the great cause of the agricultural superiority of Scotland, which is now admitted, though not hitherto accounted for, satisfactorily, as well as of the difference, that unquestionably exists, in point of activity, and the rapid progress of improvement, between the manufacturing, and the agricultural, population of Great Britain. Why is it, that every change, which can facilitate production, improve a manufacture, or add to its cheapness, when completed, is equally adopted in a manufacturing district, while the most beneficial changes can only be introduced by a slow and tedious process, into an agricultural community? There are, in the one case, constant means of communication, and of comparisons, which do not exist in the other. The highest degree of mechanical, and chemical science, is brought to bear upon our manufacturing industry, and the results of a successful experiment are no sooner known, than they are adopted universally. What similar means of improvement exist amongst the agriculturists? What does the Herts farmer know of the recent changes made in Northumberland, or Norfolk? What possibility has he of communication? Of satisfying reasonable doubts? Of examining new models? All this a General Agricultural Society would supply,—provided, as Lord Spencer most justly observed, the first law of its existence was a total repudiation of politics. Politics have been the curse of the Agricultural Associations formed three years ago. What with the poor laws, and the malt tax, and the currency, and Mr. Bernard's visions of a new democratic agricultural despotism, in which Houses of Commons and Lords are to be dispensed with, yet the farmers are to continue all powerful,—if we were asked to point out any one advantage, that has resulted from the existence of this body, or

any useful information, that has been derived from its labours, we should be at loss to do so. Let us hope that the fate of its successor may be very different; and that, by abstaining from the discussion of those matters, respecting which agriculturists, like other men, may, and must, differ, we shall succeed in discussing advantageously those matters, in which we have a common interest, and in thus giving new life, and a new impulse to a science, which, in England, at all events, is still in its infancy.

WALTHAM AND NORTH LEICESTERSHIRE AGRICULTURAL SOCIETY.

[We intended to have placed our notice of the Show of Horses at Croxton Park at the commencement of these observations; but, owing to a mistake of the printer, it appears at page 102.]

Nothing of late has fallen under our observation from which we have derived half the pleasure as the perusal of the proceedings of the above society, admirably and influentially calculated as they are to promote the improvement of the noblest variety of the most elegant and most useful quadruped to be found in the wonderfully diversified circle of nature. When an institution is based upon a firm and correct foundation, and fostered by the countenance, the patronage, and the active support of the wealthy classes, and persons of the first distinction, no doubt can be entertained of its prosperity, or of the benefit which must result from its progressive advance.

The *Hunter* we consider the "noblest variety" of the horse, as we have already hinted, because in him are united extraordinary strength, and very superior powers of progressive motion: he must carry a "welter weight" across a rough and thickly inclosed country unflinchingly; he must take timber or any kind of fence, and be able to "creep" where "screwing" cannot be brought into operation, and where the fly or the standing jump is out of the question. Nor is this all: if the qualifications already enumerated be requisite in a hunter, if making his way over or through all kinds of fences be deemed indispensable to satisfactory performance, he must also possess something like racing speed, or he cannot live with modern hounds over extensive inclosures, particularly the rich grass lands of Leicestershire, particularly those on the Harborough side of this celebrated county.

Inasmuch as the thorough horse is uniformly and very correctly acknowledged to possess the most solid bone, the hardest and most elastic tendon, the firmest muscle, he must necessarily be the strongest variety by comparison, of the majestic animal under consideration; further, in addition to these qualities, the genuine blood horse presents the most elegant conformation: the true obliquity of shoulder, the elongated arm, the deep and capacious chest, the round barrel or carcase, the widely spread quarter, the well developed gaskin, and the flat sinewy leg; superlatively beautiful in appearance, and every way formed for strength, and calculated for fleetness, we must as a matter of course look to the genuine fountain for the purification and improvement of the hunter.

An idea has long been prevalent, at least

with those who have not very attentively considered the subject, that the requisite strength is scarcely attainable without a dip or cross of the baser blood. But, as there are hundreds of living instances of the contrary, as the most powerful horses which ever stood before us were thorough bred, we feel confident that the genuine blood can be improved in size and strength so as to be equal to the heaviest weight which follow hounds. One of the Noblemen (Earl Wilton) who acted as judges on this occasion is very well aware of the correctness of our opinion from the best possible test, practical experience. We have more than once seen his Lordship appear at the cover side upon Tawfry, who after a very successful racing career (winning fourteen times out of seventeen starts) was converted into a hunter. We well recollect observing Lord Wilton, a few years ago, meeting the Cheshire hounds at Duddon Heath on the nag in question; his Lordship may not have forgotten that the fox (as usual from Waverton gorse) made for Beeston Castle, crossing the brook which presents itself in the low grounds about half a mile from the cover: this brook proved a poser to the greater part of the field; fourteen went at it, and five only landed high and dry on the other side—amongst these Lord Wilton on Tawfry. We mention this incident on account of a notion being entertained by many that the thorough bred horse is not a good jumper. Lord Wilton's horse Chancellor, became a great favourite with his Noble Owner as a hunter, after he left the course, numbering amongst his racing prizes the Liverpool Cup.

The original fountain of our blood horses, the genuine Arabian, very seldom reaches fifteen hands, and appears perhaps rather slender upon superficial observation; but, however small, the Arabian exhibits nothing of the pony character, uniformity impressing upon the mind of the beholder the idea of an acknowledged horse. We have seen many of the best Arabs which have reached this country for the last forty years, and one only amongst the number was fifteen hands—our judgment being formed by standing up to him. This was the larger of the two sent by the Nabob of Oude to William IV. The celebrated black Arabian from the I'raum of Muscat, stood, we think, about an inch lower; but certainly is the highest bred horse we ever saw.

Fourteen two may be regarded perhaps as the average height of the Arabian horse in his own country, and in all probability were he as well fed and as carefully groomed in his native regions as his descendants in this country, he would attain a much superior size; since the genuine blood in this country is worked up to sixteen hands and a half, if not more, accompanied by proportionate bulk. In the first instance, if the Arabian horse be put to a mare of the baser breed, the produce continues to be successively put to thorough bred horses till the stain is supposed to be completely obliterated, in eight removes. If this theory be correct, it consequently follows, that, if in the first instance we pollute the blood, and purify it in the manner above described, we relinquish the object sought to be obtained by the base admixture; and hence it must result that if the breeding were confined successively to genuine Arabians on both sides, English feeding and English grooming would bring the stock up to the desirable standard.

We naturally look to the Turf for our thorough bred, and the modern system of this genuinely English business is to bring out the young racer

as soon as possible: at two years of age, he makes his début, precociously enough certainly, since an animal which does not attain maturity till it has attained its seventh year, is forced into the most severe and even desperate exertions almost in its very infancy. The slender appearance of our racers, of our two years old in particular, can scarcely have escaped the notice of any person who has ever attended a meeting; and this practice of racing the animal at so early a period of his life is the bane of our thorough bred horses; they thus contract diseases, particularly of the legs and feet, scarcely a racer retiring from the course free from blemish; and hence disease, originally brought on by what may be termed artificial causes, becomes hereditary, and descends from the progenitors to the off-spring with something like systematic regularity. The greater part of the thorough bred, throughout the kingdom are diseased in the legs and feet.

Such is the severity of training that more than half the young things intended for the course sink under it; their legs generally giving way, when they pass into hands of stage masters; and although unfit for racing, they become highly valuable in their secondary capacity. As coach horses they are incomparable; but the nature of the employment, if different from racing, is still more harassing, so that the thorough bred, turn which way you will, is prevented from attaining mature perfection. Yet, amidst the difficulties by which the thorough bred horse is surrounded, we frequently see him attain a very superior size: The Colonel, for instance, has reached a bulk and strength equal to any weight with hounds—supposing the chase had been his profession. A similar observation may be applied to Mameluke, Plenipotentiary, and many other nags which have finished their racing career, as well to hundreds of hunters, to be found in all parts of the kingdom, particularly in Leicestershire.

Foreigners have of late purchased and taken away many very valuable thorough bred, but plenty still remain; and, if the example of the "Waltham and North Leicestershire Agricultural Society" were generally followed, incalculable benefit could not fail to result. "An ounce of blood is worth a pound of bone;" this maxim, though not remarkably intelligible to the uninitiated, is very correct indeed, since nothing can live any distance without blood; and when we hear of the extraordinary performances of what are denominated "half bred," we may rest assured that their real pedigree is spotless. A Cocktail (as such horses are called) can neither eat the corn, nor endure the requisite training for the course; nor need a better criterion of full blood be desired than the appetite for the one, and the spirit for the other.

In the hunting field, in a very severe run with hounds, blood is always conspicuous; when the half bred can no longer struggle forward, his unstained companion leaves him. But, let it not be hastily and erroneously supposed, that the thorough bred owes his unquestionable superiority to the quality of the blood which circulates in his veins; on the contrary, it results from the superior texture of his bone, tendon, and muscle, and his more harmonious conformation: or in other words the principles of power and speed are developed by him in a greater degree than in any other variety of the tribe, and he is consequently enabled to outstrip every lower grade of rivalry. Could the qualities above described be found in horses in

any other part of the world than where the Arab or the Barb is met with, the same results (in English breeding) with similar management would not fail to follow. We scarcely can persuade ourselves to view the English thorough bred as an Arabian of a larger size, which would be no stretch of consistency were the blood pure, because we are of opinion that when the genuine fountain has been stained, the current is not susceptible of absolute purification. Can this process of nature be converted into a filter by which the blood becomes completely defecated? We think not. We make use of the term *blood* to render our meaning understood according to general acceptance, without at all affecting our position in regard to texture and conformation.

As a proof that our thorough bred is not the Arabian of a larger size, few of our racers retain the light elastic deer-like action which distinguishes the pure horse of the desert. Yet our horses, if they have not attained faultless perfection, have reached a degree of excellence which places them far before those of any other country; and, after what has been stated on the subject, the reader will not be surprised to find us strenuous advocates for thorough bred in the hunting field as well as on the course. If however, we expect the thorough bred horse to be master of his business as a hunter, let him receive his first lessons in early life; since if he be trained to race, be taught one mode of going only, to become a "daisy cutter," if he be afterwards used for following hounds, it is not to be expected that he can all at once (if ever) abandon a system to which he has been habituated, adopt a more lofty action, and clear his jumps. But, let him receive proper instructions at a proper time, and we unhesitatingly assert that the thorough bred horse will excel in jumping as much as he surpasses in power and speed: Jerry, a thorough bred horse, belonging to Michael Humble, Esq., of Liverpool, covered ten yards and several inches at a jump, five years ago: it was in a contest four miles across the country (erroneously called a steeple chase) against a nag belonging to Mr. Steers, also of Liverpool, in which Jerry proved successful: we knew him well; he was sixteen hands high, rather leggy, colour bay. The ground was marked out in Sir T. Stanley's country, between the Dee and the Mersey. Jerry was ridden by Mr. Ferguson, a gentleman from the Sister Island.

If therefore blood be so desirable in the hunting field, where great strength, great activity, and invincible perseverance are so essentially requisite, would not our common draught horses derive very important improvement from an infusion of the same superior stream? Most assuredly. When the celebrated Bakewell undertook to improve the breed of cart horses in this country, he was evidently not aware of the quality of that variety of the tribe which he procured from Flanders: he mistook bulk for strength, and thus produced animals of almost elephant-like size, with small porous bone, soft inferior tendon, loose and flabby muscle. As far as regards weight leaning against the collar, such creatures may answer the purpose: in the brewers' drays of London, and other somewhat similar draught, they may be correctly placed; because the distance is short, the pace slow, while the frequent stoppages afford an opportunity for feeding by means of the nose bag: these heavy, lumbering, hairy-legged creatures must be thus treated—that is, they must be well fed, and worked slowly, or they sink under the

labour. If "a pinch be taken out of them," if they be "over-marked," they sicken, their appetite fails, and they are not easily brought round again. But, admitting that for the kind of draught just mentioned, these unweildy horses may answer the purpose, they are ill suited for the plough, and indeed for all kinds of husbandry business or farming purposes. Those who have never tried the experiment would experience much surprise in passing their hand down the leg of a dray horse and then down that of one of our well grown thorough bred—The Colonel, for instance: they would find the bone (below the knee) of the latter not only circumferentially greater, but incomparably more solid; while the difference both in the size and texture of the tendon would be found still more remarkable.

Something more than twelve months ago, when we were going through the paddocks at Hampton Court, we observed two compact active horses drawing a cart: their vivacity and spirit indicated superior breeding, and on approaching them, we easily recognised the fraternity of the Colonel. They were exactly half-bred, the dams being of the hairy-legged heavy kind. Mr. Worley, the superintendent of the establishment, represented them as animals of a very superior description: they would travel with a load much quicker than any other draught cattle about the place, would continue more hours, and to use his own expressive term, "would do more work than would kill half a dozen common cart horses."

It is far from our intention to dictate to the laudable society whose proceedings have elicited these observations; but, should they adopt the preceding suggestion, and recommend an infusion of Eastern blood into horses used for agricultural purposes, they would confer a general and a very great benefit in pointing out the method of pursuing what may be called the half-bred draught system, so as to render it satisfactorily effective.

If we take the evidence of facts for our guide, we shall find that it has been the erroneous practice of the breeders for the Turf to continue the use of a celebrated stallion till he had reached an age when the vigour of life had left him, and when the progeny must necessarily be impressed with the feebleness of the sire. The truth of this assertion or position may be ascertained by a retrospective glance at the Turf, by which it will be perceived that the produce of very old stallions were either worthless or as nearly so as possible: such was the case with the latter stock of Eclipse and also with that of Sir Peter Teazle, to say nothing of a hundred other instances. Some persons are of opinion that the defect or enfeebled state of a very old stallion may be remedied by youth or vigorous life on the part of the opposite sex; and we are not prepared to deny it altogether: the conjunction of age on the part of the sire and youth on that of the dam will be productive, and the produce will benefit by the quality of the latter, but not to a sufficient extent to render such a system of propagation advisable: while advanced age on both sides will generally fail to be prolific. No; if we are anxious for sound and satisfactory stock, let the progenitors possess the full vigour of life—neither too old nor too young; since, if advanced age impresses feebleness (if not disease) upon its offspring, the produce of immaturity will be under the desirable size. In all cases of propagation, the sire and dam should be mature, healthy, and free from blemish, if possible; and where such a very desirable union cannot be accomplished, no

pains should be spared to come as near to it as circumstances will admit. Nor should the preponderating influence of the male, in the procreation of the species be forgotten.

Moreover conformation should be carefully considered. The hack is admired for his compactness, the racer for something of an opposite description: one form we have many times observed superior to any other, eminently calculated for every purpose to which the horse can be applied—for the saddle in every way, as well as for draught in all its varieties. If we take Mr. Batson's Plenipotentiary for our model, we shall perceive an extraordinary union of the organs of strength and celerity, which need not consecutive enumeration in this place, as they have been described in the earlier part of this article. We regard Plenipotentiary as the finest horse which has ever fallen under our observation, and his very superior performances corresponded with his extraordinary conformation, the one being the result of the other: and so it must always be: if the organs are in unison and greatly developed, the requisite function will not fail to be performed, at least if the animal be properly managed.

Finally, the farmer and breeder of superior nags must clearly perceive the immense advantage, the much extended and highly eligible market, which is opened for their produce. They must be aware that a nag calculated for hunting, particularly one capable of carrying weight up to the fleet hounds of modern days, uniformly experiences ready sale at a high price; to say nothing of those collateral events presented by the army, the hackney man, and the stage coach proprietor. Nor is this all: the superior character of the English horse is acknowledged throughout the civilized world; and from the eagerness manifested by foreigners of late years for our highly bred nags, there could not fail to be that rivalry in the general market as always to ensure the holder of land a greater remuneration than he could derive from any other source or kind of produce. No fears need be entertained of our Continental neighbours, or even our brethren on the other side of the Atlantic, surpassing us, or attaining the pre-eminence in regard to this noble animal; since, before they can rival us, they must completely imbibed our feelings and our invincible perseverance; as well as acquire our knowledge of the horse, and our system of grooming and management. In fact, if by means of the English market foreigners are enabled to improve their breed of horses, it surely does not follow that we should retrograde or even become stationary: on the contrary, the energy which would be called into active operation under such circumstances would assuredly advance the object in view till improvement could be carried no further.

The country is greatly indebted, and the agricultural interest in particular, to those patriotic noblemen, who have taken a leading and distinguished part in the prosperity of this department of the proceedings of the above society, and that the laudable example may be followed throughout the kingdom must be the sincere wish of every lover of his country, of every genuine Englishman.

ON THE REPEAL OF THE DUTY ON BRICKS.

SIR,—Notice having been given by an honourable member that he will move, on the 2nd of March, for

the repeal of the duty now paid on Bricks, will you allow me to make a few plain remarks on the *unjustness and impolicy* of the tax, with a view to call forth the exertions of *all* by petitions, &c., to get it abolished. I say of *all*, for every one, from the peer to the peasant, is interested in having a *cheap and comfortable dwelling*.

No tax can be just that is laid on a *part* of a nation, the produce of it being for the use of *the whole*. Bricks pay duty, but stone pays none. Both are the chief material of our buildings; common justice, then, demands *both* to be taxed or *neither*. It is both unjust and impolitic to tax *the labour of the poor*, and no one can deny that *labour* forms the chief cost in the making of bricks, and it is generally the labour of the poorest of the poor. The present duty deprives them of extended employ, and with them the bricklayer, mason, carpenter, plumber, painter, &c., &c., also suffer.

But this is not their only affliction. It deprives them of a *cheap and necessary dwelling*, which their more wealthy neighbour may obtain for money. It is an acknowledged fact that the rent of houses occupied by the poor is much higher in proportion to others, and generally add little, if at all, to their comfort; in many parts of the country they are not fit for the dwellings of man. Something has been done by charitable individuals to raise the *moral character of the poor*; but we must all unite in so much needed an undertaking, and can a greater stimulus be given than setting with'n their reach a *cheap and comfortable dwelling*? I contend, nothing so likely. They are as sensible as we are, that comfort is *not to be got* in their present habitations, and therefore make no attempt even to alleviate the evil.

But, Sir, *we all suffer* from the tax. Look at our buildings generally, and more particularly our agricultural ones; they are quite inadequate to the necessary wants of the improved and improving state of agriculture, and, in too many instances, are really falling to decay. The improvements in our cities and towns move slowly on; but ask the occupier of the improved houses if the present profits on trade, or interest of money, can bear the expense. I fear neither will. Prudent men find this out in time, but very often too late to remedy the evil.

We must never lose sight of this truth—that *the very existence of our country depends on the due cultivation of our natural resources*. The duty in question adds full one-third to the price of an indispensable article—the product and manufacture of our country—by which not only the consumption of it, but of *many other articles also made by us* is lost, the employment of our working population is stopped, and the comforts and conveniences of the nation at large are cut short—"this must be impolitic."

Take off the duty and every restriction, and the increase in the consumption of them—timber, iron, stone, &c.—will soon be felt, even, Sir, to the carving and gilding; and as every new or improved dwelling hitherto has brought *its new wants*, the furnishing, down to the three-legged stool, will be of no trifling amount. We shall then have the satisfaction of seeing *the poor employed, their comforts and ours increased*, and last—though not least—their earnings again expended in the produce and manufacture of our own country, and the necessities of our colonies and foreign customers, who in exchange will receive our goods, and thus give further employment; so that our trade, both at home and abroad, will benefit by it, and consequently the farmer find a *good market for his produce*. I am, Sir, Yours, &c.,

A YORKSHIREMAN.

North Riding, Jan. 16, 1838.

DRAINING LAND BY STEAM POWER.

The Gold Isis Medal of the Society of Arts was voted to Joseph Glynn, Esq., Civil Engineer, for the following communication on his application of Steam Power to Draining Fens.

Butterley, by Derby, Feb. 8, 1836.

SIR,—I have thought it my duty to submit to the Society some account of a very important application of the steam-engine, which at present appears to be but little known beyond the immediate localities where it has taken place; and which has been successfully made in several extensive works wherein I have been engaged, for the drainage and improvement of fens and marsh lands, chiefly in Lincolnshire and Cambridgeshire, and which I believe would be found of great advantage in many other parts of England.

As the introduction of the steam-engine, on the large scale, cannot, I presume, be uninteresting to the Society, which alike patronises agriculture and the arts, I trust I shall be excused in venturing to lay before you the following observations, illustrated by plans of three of the principal works of this kind, which have been executed under my superintendence.

Although much has been done in the fen countries to improve the outfalls of their rivers, and to promote as much as possible, the action of natural drainage, yet many districts are so situated, that, without the aid of mechanical power, they must still have remained little better than waste swamps, affording only a precarious summer pasturage for cattle.

The introduction of the wind-engines, or Dutch mills, was therefore of great utility, as their use enabled the fen farmers to throw off a large portion of the water, and by raising the banks round their districts, they kept them so far dry, that in favourable seasons they reaped abundant harvests; the great fertility of the soil returning them large crops of wheat when brought into tillage.

But here the farmer was subject to great risks. Often, when his crops were almost ready for the sickle, he had the mortification to see the rain fall in torrents when there was not a breath of wind to turn his mills, which stood motionless with their sails spread to catch the vainly expected breeze, whilst the produce of his fields perished on the ground.

The aid of the steam-engine is, therefore, invaluable in the fens; and the extent and fertility of these lands, when properly drained and cultivated, render them an object of almost national importance. The fen districts in the Bedford level alone amount to nearly 300,000 acres, and the whole of the fen and marsh lands in England is, perhaps, not less than 800,000 acres.

In one of the districts where I was employed, I found the rich black earth, formed of decomposed vegetable matter, to be upwards of 30 feet in depth.

Few persons, I believe, are aware how small a quantity of mechanical power is sufficient to drain a large tract of fen land. Generally speaking, there are no natural springs; and when the upland waters are banked out and carried into the rivers by catch-water drains, we have to lift that water alone which falls from the clouds. The quantity of rain which descends on the flat eastern counties of England is less than in any other part of the island, seldom exceeding twenty-six inches in depth in the year, whilst in the hilly western counties of Lancaster and Westmoreland it often amounts to fifty-four inches in depth. It would seem almost like an arrangement made by Provi-

dence to place the cultivation of these rich lands within the compass of our ability.

In many months the evaporation is greater than the downfall, and it then becomes necessary to open the sluices, and let in water from the rivers to moisten the earth and to supply the cattle, which, when steam-engines are used, may be done without fear.

If the wind-engines could be depended upon, they might be rendered sufficient for the purposes of artificial drainage; but it unfortunately happens, that when there is most rain there is generally least wind, and the mills are useless when all depends on them. The steam-engine ensures certainty; it is ready to act whenever it may be wanted: and the first cost and subsequent maintenance of one powerful steam-engine is less than the expense of building, repair, and attendance on a great number of windmills. In one large district where I was employed, named Deeping Fen, near Spalding, and now drained most effectually by two steam-engines, there were forty-four windmills for lifting the water.

I would here remark, that I do not claim the merit of having originated the idea of employing the steam-engine in the drainage of land. It did not escape the great mind of Smeaton, who gave it as his opinion, that it would one day become a powerful agent in the improvement of the fens; and subsequently, his pupil and successor, the late Mr. William Jessop, I believe, on one occasion, unsuccessfully recommended its adoption. Afterwards, the late Mr. John Rennie endeavoured to introduce steam-engines into the fens, but he could only prevail on the proprietors of one district to erect a small steam-engine in aid of their windmills; consequently, it had not a fair trial; and here the matter rested for many years.

I am happy, however, in that I have been able to realize what these great men had imagined; and in so doing, I have not only caused "two blades of grass to grow where but one grew before," but I have had the pleasure to see abundant crops of wheat take the place of the sedge and the bulrush. I have been fortunate, in that I have been permitted to carry these improvements to a greater extent than I could possibly have anticipated; and, whilst I confess myself ambitious of obtaining some mark of the Society's approbation, I trust that, through the means of their widely circulated Transactions, the knowledge of these things may be further extended, not only in England but on the Continent; and that when it is known by what comparatively small means the swamp or marsh, exhaling malaria, disease, and death, may be converted into fruitful corn fields and verdant pastures, the blessings of health and abundance may be still more widely spread. I beg to apologize to the Society for this digression, which has led me away from the practical part of my subject.

In most cases it is not requisite to raise the water more than three or four feet higher than the surface of the land intended to be drained; and even this is only necessary when the rivers into which it is delivered are full between their banks, from a continuance of wet weather, or from upland floods.

In some instances, the height of water in these rivers is affected by the tides, so that drainage by natural outfall can only take place during the ebb; in others, the rivers, uninfluenced by the tides, form the means of drainage, but have not fall or descent sufficient during heavy rains to carry off the water.

In all these cases I have erected steam-engines

for draining marsh land with complete success, and the plans* which accompany this paper will explain their application.

I have stated, that the quantity of rain falling in the fens on the eastern side of the island seldom exceeds 26 inches in the year; and that it is with the rain alone we have to contend, the upland waters being banked out, and there being no springs in the fen. If there be rising ground within the district, or uplands adjoining, whose waters cannot be banked out, the surface of such lands must be taken account of in our calculations as if they formed a part of the district.

If we suppose that in any one month there fall three inches depth of rain, of which one inch is absorbed and evaporated, we have $1\frac{1}{2}$ cubic feet to every square yard of land; and this multiplied by 4840 (the number of square yards in an acre), gives 7260 cubic feet of water to the acre.

I have found it expedient in practice to keep the water in the drains within the district, about 18 inches below the surface of the cultivated land; and if we must raise it $3\frac{1}{2}$ feet higher than the surface, which happens very generally to be the case, especially when the water is high in the rivers, our lift between the surface of water in the drains and that of the outfall river, will be five feet. I have generally caused the principal or main drains to be cut $7\frac{1}{2}$ feet deep, and of width to give them sufficient capacity to contain the rain-water as it falls and to bring it down to the engine, keeping it in full work, with a descent or declivity of from $1\frac{1}{2}$ to three inches in a mile.

I have always used scoop-wheels, the float-boards of which dip five feet below the water's surface where powerful engines are used, or $6\frac{1}{2}$ feet below the level of the land in the fen.

The main drains, then, are one foot deeper than the wheel-track, which allows for the deposition of mud and weeds, and facilitates the flow of water to the wheel. Such a wheel, in technical language, will be said to have ten feet head and dip.

These scoop-wheels I have made of cast-iron, with wooden float-boards, like the undershot wheel of a water-mill, but, instead of being turned by the impulse of the water, they are used to lift it, and are kept in motion by steam power.

The details of the construction of these wheels are shewn in the engraving, Plate I.

Fig. 1 is a side view of the scoop-wheel.

Fig. 2 is a front sectional view of the same, shewing only the top and bottom paddle-boards and pairs of arms, and one top and one bottom tooth.

aa the paddle-boards, each fastened to its pair of arms; *b b* the ring of internal teeth, which are engaged by the toothed wheel *c*, having on its axis a fly-wheel and a crank *d*, by the latter of which it is connected with the prime mover.

The wheel is composed of two pair of rings, an outer and an inner in each pair, one of the latter of which is the ring of teeth *bb*, already mentioned. Each ring is cast in eight segments, which are joined as shown at *ee*, fig. 1. These four rings are kept in their proper places by several sets of hollow pillars, each set consisting of one long, and two short ones, as *f* and *gg*, fig. 3; one long screw-bolt *h* passes through the three pillars, and also through corresponding holes in

the four rings, and thus binds the whole firmly together. Each pair of rings is connected with the common axis by a set of arms or spokes *ii*, &c., the converging ends of which are secured in a circular flanch *az*, fixed on the axis.

The form of the recesses in the flanch into which the ends of the arms are fitted is shewn in fig. 4, *jj* are two such recesses, and *i* is an arm in its place, and made fast by three bolts. Fig. 5 is a cross section of an arm. Fig. 6 shews the outer end of one arm, and part of a ring: it is fitted into a recess or box *k*, which projects from the rim, and is secured by two bolts. These latter are cast with the two outer rings, as shown in the transverse section, fig. 3; *l*, in the same figure, is one tooth of the ring of teeth, fig. 1. The close fitting of the masonry that forms the channel for the water in which the paddle boards *a* work, is shown in cross section *ll*, fig. 2, and at *l*, fig. 1, in longitudinal section.

The float boards move in a track or trough of hewn stone or masonry worked to fit them, as shown in the figure, the lower end of this wheel track being open to the main drain, the upper end communicating with the river, which is kept out when the wheel ceases working, by pointing doors, like the lock gates of a canal. The float boards do not radiate from the centre of the wheel, but form an angle of forty-five degrees with the horizon at the point where they deliver the water.

The diameter of the scoop-wheel should be such that the surface of the water in the outfall drain or river may never rise higher than within four or five feet of its axis, otherwise the water may pass over the float-boards, and flow back again into fen.

I have found about six feet in a second to be the best speed for the circumference of the wheel, as that velocity gives sufficient centrifugal force to hold the water up against the "breast" of the wheel-track or trough of masonry, and yet not so much as to cause its being carried up by the float-boards past the point of delivery.

As engineers, by common consent, make a horse's power to be equal to 33,000lbs. raised one foot high in a minute, or 3,300lbs. ten feet high in the same time, consequently, as a cubic foot of water weighs $62\frac{1}{2}$ pounds, and a gallon of water 10 pounds, a horse's power will raise and discharge from the fen, at 10 feet high, 330 gallons, or $52\frac{3}{10}$ cubic feet of water in a minute.

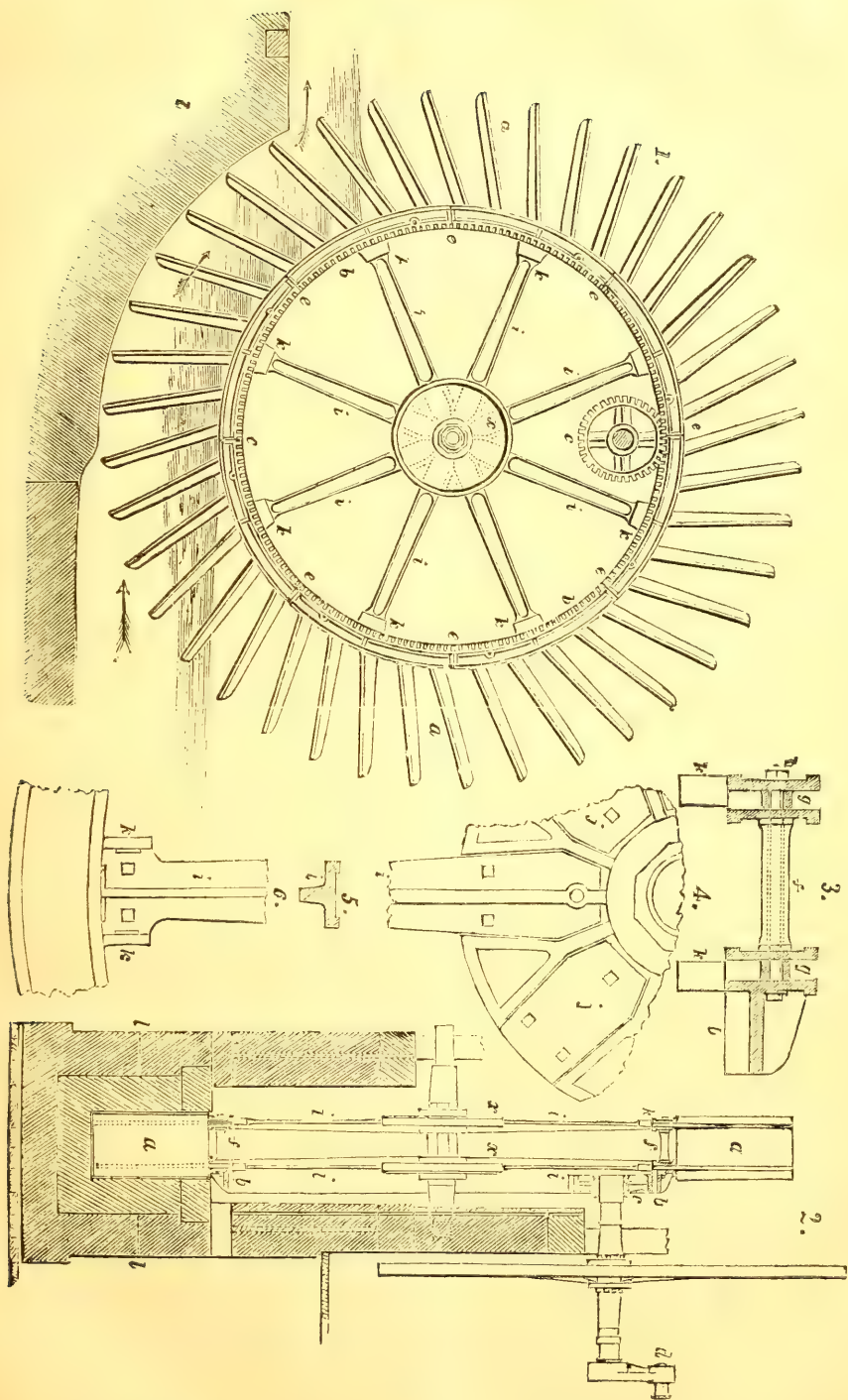
Now a good steam-engine applied to work a scoop-wheel, will consume about 10lbs. of Newcastle coals in the hour for each horse's power, and in that time lifts and discharges 3,168 cubic feet, or 19,800 gallons of water (at a height of 10 feet) per horse's power per hour.

I have taken the quantity of rain which may fall in excess on an acre of fen-land in a month, to be 7,260 cubic feet, which one horse's power will raise and discharge in ($2\frac{32}{100}$ hours) about two hours and twenty minutes.

Suppose, therefore, we wish to drain 1,000 acres of fen or marsh-land, and that the upland waters are all banked out; we have an excess of rain equal to 7,260,000 cubic feet of water to raise and get rid of.

A good steam engine of ten horses' power will do this in 232 hours, or less than twenty days, working twelve hours per day, and I have found these calculations fully supported in practice. It is true that the rain due to any given month may fall in a few days, but in that case the ground absorbs a good deal of it, and I have before observed that the drains must have capacity enough to receive

* These plans, which consist of a very elaborate and excellent set of drawings, are deposited in the Society's collection, and are open to examination by those who are interested in such works.



(For Description, see Page 95.)



and contain the rain as it falls; besides, in case of need, the steam engine may be made to work twenty hours per day instead of twelve. It is also true that, as the dip of the wheel lessens, the quantity of water discharged is diminished, but then the district is perfectly safe, for the upper edges of the float-boards are eighteen inches below the level of the land.

In order to shew what has been done in actual practice, I here beg leave to submit the results of an experiment made with one of the engines of 80 horses' power, which I have erected at Pote Hole, in Deeping Fen, near Spalding, Lincolnshire. The quantity of water thrown being ascertained by the contents of a portion of the main drain, partitioned off for the purpose by dams, properly planked and secured by puddling of clay.

Results of an Experiment made with the Eighty-Horse Engine at Pote Hole, on the 18th of July, 1830.

Time the engine was at work.	Coal burnt.	Mean Lift at which the engine worked.		Mean Dip of the wheel.		Weight of water raised per hour.
		Bushels.	Ft. In.	Ft. In.	Tons.	
1st hour's trial	12½	6	7½	3	4	9840
2nd ditto ditto	12	6	10	2	10	8520
3rd ditto ditto	11½	7	2	2	6	7560
4th ditto ditto	11	7	5	2	2	6660
5th ditto ditto	10	7	6	1	10	5700
6th ditto ditto	10	7	6	1	6	4740
7th ditto ditto	10	7	6	1	3	4220
8th ditto ditto	10	7	6	1	2	3990
	87					51230

The water-wheel is 28 feet in diameter, its float-boards are 5½ feet in depth by five feet wide, and they travel with a mean velocity of six feet in a second. The section of the stream delivered, when the engine has its full dip, is, therefore, 27½ square feet, and the quantity discharged is 165 cubic feet, equal to more than 4½ tons of water in one second, or about 16,200 tons in one hour.

It will be observed, that the float-boards had only three feet four inches dip, instead of five feet six inches dip, at the commencement of the experiment, or, in proportion to the full dip, as 20 to 33, or as 9840 tons, the quantity lifted in the first hour, are to 16,230 tons; so that the trial proves the correctness of the calculation.

It will also be remarked, that had the wheel been working with a full dip, "the head," that is, the lift from surface to surface of the water, would have been only four feet six inches, instead of six feet 7½ inches. At the end of the eighth hour the inclosed portion of the main drain, which was 6½ miles in length, and averaged at the water's surface 34½ feet in width, being so far emptied of its contents that the float-boards of the scoop-wheel dipped only 14 inches in the water, it was useless to continue working the engine.

The fuel used during this trial, was Yorkshire coal, of which the average consumption was about 10½ lbs. per horse power per hour. From eight to nine pounds of Newcastle coal would, with this engine, be found to do the same quantity of work.

I have drained two districts of fen-land, near March, in Cambridgeshire, where the engine's power bears about this proportion of ten horses' power to 1000 acres of land, and the water can always be kept down to any given distance below the roots of the plants. If the rain fall in excess, the water is thrown off by the engine; if dry weather prevail, they can open the sluices without

risk, and let the water flow in from the river, to fill the drains and moisten the earth.

The engines work about four months out of the twelve, at intervals varying of course with the season. Where the districts are tolerably large, and the drainage effected by steam power, the annual expenses, including all charges, will not exceed 2s. 6d. an acre. The first cost of the works varies, of course, in almost every district, from the nature of the substrata; but generally I have found that it amounted to about 20s. an acre for the requisite machinery and buildings: that is to say, an engine of forty horses' power, with its scoop-wheel, machinery, and buildings erected for the drainage of 4000 acres of land cost about 4000l. I have found this to be the case in four different districts.

Where the clay or other firm measures lie near the surface, so that we can either dig down to them, or drive short piles, I prefer the steam-engines in the form generally used in cotton mills and other manufactories, and commonly called by workmen, "factory engines;" but where it is necessary to drive long piles, and to plank and cross-plank over them, so as to form an artificial foundation or platform to build upon, I prefer the "marine engines," that is to say, in the form usually adopted on board of steam-packets, which is more compact, requiring smaller and less expensive foundations.

The districts wherein I have been employed are eleven in number: the quantity of land drained or improved is about 90,000 acres, and the steam power used is equal to 620 horses.

In many places, persons who were able to foresee the consequence of these improvements, and to avail themselves of it, have purchased land at from 10l. to 20l. an acre, which they may now sell at from 50l. to 70l. an acre, producing from four to six quarters of wheat to the acre.

Many of these gentlemen farm their own land; are commissioners by qualification; they live in abundance on the produce of their fruitful soil, and their hospitality and kind attention I have every reason gratefully to acknowledge.

I will now mention these districts in the order their works were undertaken, with the quantity of land and the power used in each case, and attempt an explanation of the drawing sent herewith.

Deeping Fen near Spalding, Lincolnshire, in 1825, containing about 25,000 acres, is effectually drained by two steam-engines of 60 and 80 horses' power: the larger one being made entirely under my superintendence at the Butterly Iron Works; the 60 horse engine by Fenton and Murray. The scoop-wheels and machinery for both engines were entirely made and put together at Butterly, under my direction. The cast-iron toothed wheels used were of necessity very strong, more so, indeed, than any I had seen, being fifteen inches in width across the face of the wheel, and the pitch of the teeth, five inches.

March West Fen, adjoining the town of March, Cambridgeshire, in 1826: about 3600 acres are completely drained by an engine of forty horses' power, and it is in contemplation to add about 400 or 500 acres to the district to be drained by the same engine.

Misterton Soss, with Everton and Gringley Cars, in 1829; comprising an extensive district between Bawtry and the river Trent, of about 6000 acres, more than two thirds of which are marsh land, is effectually drained by a forty horse power engine.

The engine is situate about three quarters of a

mile from the Trent, and the outfall drain from the engine to that river is contrived, during the rising tide, or when the Trent is flooded, to form a capacious reservoir, into which the engine throws the water until it acquires sufficient head to open the pointing doors at the Trent side, and discharge its contents into the river. This is done when the Trent is flooded; but in favourable seasons the sluices by the side of the engine are raised, and the district is drained by natural outfall; these sluices are also used in dry seasons to retain the water in the district.

1830, Littleport Fen, near Ely, about 28,000 acres, drained by two steam-engines of 30 and 80 horses' power, but with a few of the old wind-engines still retained. Before steam power was used, there were seventy-five wind-engines in this district; and often has the Fen farmer, in despair, watched their motionless arms, and earnestly hoped a breeze might spring up to catch their sails, whilst his fair fields gradually disappeared below the rising waters, and the district assumed the appearance of an immense lake.

The large engine was entirely constructed under my inspection, and built from my drawings, at the Butterley works; the small one was purchased by the commissioners, and I afterwards repaired and adapted it, so as to make it available for their purpose.

As it was desirable that the large engine should be erected on the bank of the Hundred Foot, or New Bedford River, in which the tide rises to a considerable height, a scoop-wheel, of large size and great strength, was necessary; the head and dip being at times not less than sixteen feet; but when the tide was out, the head was much diminished, and I therefore made two speeds, or combinations of wheel work; so that the scoop-wheel might revolve with greater velocity, and throw out a larger quantity of water during the ebb, whilst the engine's full power and uniform speed were maintained at all times.

The foundation was naturally very bad, there being seven yards in depth of black peat above the clay.

To resist and to work against so great a head of water, I was compelled to take artificial means to make it secure, and, accordingly, I caused upwards of 600 strong piles to be driven firmly down into the clay. Having spiked to the pile-heads, which were sawn off to a uniform level, stout cross sills of Memel timber, the whole was planked over with three inch deals laid close together, and spiked down to form a complete floor under the whole of the buildings so that if any settlement took place they might sink equally. The works, however, have stood firm as a rock.

The scoop wheel is thirty five feet in diameter, and with its axis and the toothed wheel work upon it, weighs fifty four tons, to which, when in action, the weight of water upon it must be added.

The pinion on the engine axis is four feet in diameter; it makes thirteen revolutions per minute, and weighs thirty three cwt.

When the tide is high, this pinion works into a wheel of twenty-four feet in diameter having internal teeth; the float-boards on the periphery of the scoop wheel then travel with a velocity of 212 feet per minute, and in that time discharge 3519 cubic feet, or 21,980 gallons of water. When the tide is low, the pinion, by the help of machinery, is made to slide into action with another wheel of sixteen feet diameter having external teeth, and the float boards then move at the rate of 318 feet

per minute, delivering 5278 cubic feet, or 32,880 gallons of water in the same time.

Before these works were completed, many persons who professed to understand such matters predicted their total failure, and greatly alarmed the commissioners for the result; but their success in saving the district from being drowned during a long continuance of heavy rain, which, without their aid, must have laid the whole of it under water, gave unquestionable evidence of their efficacy. The commissioners were pleased to make a public expression of their thanks for my services, conveyed in terms most flattering; and, by printing their resolutions in the local papers, to induce other districts to follow their example.

Middle Fenn, near Soham, Cambridgeshire, about five miles from Ely, in 1832. About 7000 acres are drained by a steam engine of sixty horses' power. The foundation was similar to that in the preceding district of Littleport, and the expense and difficulty encountered in that instance led me to adopt the marine engine here: the drawings Nos. 5, 6, and 7, show the arrangement. My success in Littleport Fen led to this understanding, several of the commissioners having estates in both districts, as also in the following.

Waterbeach Level, lying between Ely and Cambridge, containing about 5,600 acres, was drained in the same year by a sixty horse power engine. The foundation here is a natural bed of concrete gravel held together by an ochreous cement; a large patch of this was found at the very point where it was desirable to establish the works at an accessible depth from the surface, so that we could build upon it.

Magdalen Fen, near Lynn, Norfolk, in 1834, contains upwards of 4,000 acres, and is completely drained by a forty horse engine, under circumstances similar to the preceding; the water is discharged into the Eau Brink Cut.

March First district, or Binnimoor Fen, in Cambridgeshire, 1834. 2700 acres of land are kept in the finest possible state of drainage by a thirty horse power steam engine; the water of about 300 acres of adjoining high ground drains into the fen. This is, perhaps, the most complete work of the kind in Cambridgeshire. It lies close by the town of March, and the commissioners were, therefore, desirous that the drainage should be perfect, as they instructed me to spare no pains to make it so, I trust their wish has been accomplished.

Feltwell Fen, near Brandon, Suffolk, about 2,400 acres, drained or improved by a 20 horse engine, now just completed.

Soham Mere, Cambridgeshire; formerly, as its name implies, a lake, of 1,600 acres in extent, and about 300 or 400 acres of higher land, the waters of which cannot altogether be excluded. As the lift is great, it is requisite to employ a forty horse engine. These works are now constructing; they are in a forward state, and will soon be in operation, I trust with success.

I have exceeded the limits I at first proposed to myself, and, I fear, trespassed on your time; I therefore refer to the plans which I hope will further elucidate the subject, and respectfully submit them to the Society.

A. Aiken, Esq. I am, Sir, &c., &c.
Secretary, &c., &c. JOSEPH GLYNN.

Whilst I was writing the preceding paper I thought

it expedient to apply to Mr. John Trickett, superintendent of the works at Deeping Fen, for an account of the quantity of rain which had fallen in the district during the last two years, and what quantity of water he had thrown off with the steam engines, to which I received the following reply :—

Pode Hole Engines, Feb. 11, 1836.

SIR,—According to your request, I have sent you a copy of my log-book for the last six years, knowing it would be better information for you than if I had given you the last two years only, as it gives some wet seasons. We are working day and night at this time, and, I am happy to say, are giving general satisfaction. The district we drain is about 25,000 acres. I am, Sir, &c.,

Joseph Glynn, Esq.

JOHN TRICKETT.

Butterley, near Derby.

*Depth of Rain fallen, and Weight of Water lifted at the Pode Hole Engines, Deeping Fen, near Spalding.**

Rain fallen, inches depth.	80 horse lifted.	60 horse lifted.
1830. Inches.	Tons.	Tons.
January..... 3·25	1529520	346440
February..... 4·6	4097100	2794560
March..... 4·4	743880	388020
April..... 2·75	1401060	
May..... 4·7	1638660	
June..... 4·63	3004640	181440
July..... 3·2	1456570	133920
August..... 2·125	23160	
September..... 4·79	1675920	
October..... 6·3	952500	150060
November..... 1·87	670320	879840
December..... 1·3	2741580	330540
Total rain..... 34·285	19934910	5204820
No. of days (12 hours each) worked.....	by 80 horse 219	by 60 horse 73½

Rain fallen, inches depth.	80 horse lifted.	60 horse lifted.
1831. Inches.	Tons.	Tons.
January..... 2·	2916680	474650
February..... 3·	5669640	2293820
March..... 1·62	2623500	
April..... 2·3	488200	
May..... 1·25	156420	
June..... 3·1	114820	10500
July..... 4·9	597040	
August..... 4·1	276960	500845
September..... 4·25	641200	81700
October..... 2·9	3120760	1427552
November..... 2·5	2546800	1189890
December..... 2·4	3623690	1787880
Total rain..... 34·32	22178670	8363877
No. of days (12 hours each) worked.....	by 80 horse 236	by 60 horse 130

Rain fallen, inches depth.	80 horse lifted.	60 horse lifted.
1832. Inches.	Tons.	Tons.
January..... 1·25	1855120	2337645
February..... 1·	324200	434700
March..... 2·8	1765260	913695
April..... 2·5	715920	
May..... 3·1	1377400	347980
June..... 3·1	910180	
July..... 2·3	27135	
August..... 4·25	74925	
September..... 3·37	21735	15309
October..... 3·1	348685	
November..... 3·5	1724480	1135120
December..... 2·5	3410260	2018235
Total rain..... 28·87	12555300	7202684
No. of days (12 hours each) worked.....	by 80 horse 143½	by 60 horse 112

Rain fallen, inches depth.	80 horse lifted.	60 horse lifted.
1833. Inches.	Tons.	Tons.
January..... 1·25	2213640	1394625
February..... 5·15	5594980	3859425
March..... 2·062	2703300	1513840
April..... 3·	2452220	1599380
May..... 3·82	169040	.....
June..... 3·12	380620	2500
July..... 3·	.....	49100
August..... 3·5	12780	18020
September..... 1·2	159840	96480
October..... 2·1	394560	200480
November..... 7·5	380990	124020
December..... 1·7	687740	70280
Total rain..... 24·952	15149710	8728150
No. of days (12 hours each) worked.....	by 80 horse 147	by 60 horse 125

Rain fallen, inches depth.	80 horse lifted.	60 horse lifted.
1834. Inches.	Tons.	Tons.
January..... 2·25	1616530	994305
February..... 5·	473460	454060
March..... 5·	125700	81300
April..... 1·	8940	5850
May..... 5·	9320	6420
June..... 9·	6900	4540
July..... 6·25	72240	.....
August..... 2·1	67920	.....
September..... 1·25	.....	46080
October..... 1·	18640	40320
November..... 1·25	18370	11060
December..... 6·	10200	6220
Total rain..... 18·1	2428420	1650155
No. of days (12 hours each) worked.....	by 80 horse 25½	by 60 horse 25¾

* The district drained is equal to 25,000 acres.

Rain fallen, inches depth.	80 horses		60 horse
	lifted		lifted.
1835.	Inches.	Tons.	Tons.
January	2.	781080	402380
February	1·75	469120	335330
March	2·5	2093470	1365710
April	1·5	521130	329090
May	2·2	725190	454340
June	1·6	229930	117720
July	1·4	101940	71025
August	1·2		
September	3·4	1000	6300
October	4·25	723080	496470
November	1·8	1851860	1200940
December	·6	1133380	747490
Total rain	24·2	8631180	5526795
No. of days (12 hours each) worked		by 80 horse 97 $\frac{1}{4}$	by 60 horse 95 $\frac{3}{4}$

I also wrote to the very Rev. the Dean of Ely, Master of St. John's College, Cambridge, and requested he would kindly procure me the quantity of rain fallen at the Observatory in Cambridge; at the same time stating the object of my inquiry. The dean, however, thinking that it would be more satisfactory to give the quantity of rain fallen in the fen than at the observatory, has sent me the following.

St. John's, Feb. 17th, 1836.

DEAR SIR:—The Rev. Leonard Jenyns of Swaffham Bulbeck, near Cambridge, has favoured me with the enclosed account of his observations on the quantity of rain which fell in the years 1833, 1834, and 1835, at his place of residence, which will, I trust, in a great measure, answer your purpose.

I am, Sir, &c., &c.,
Joseph Glynn, Esq. J. Wood.
Butterley by Derby.

Quantity of rain fallen, in inches, in each month during the last three years, 1833, 1834, and 1835, at Swaffham Bulbeck, Cambridgeshire.
N.B. The rain-gauge is on an exact level with the ground. (Signed) L. JENYNS.

Rain fallen at Swaffham Bulbeck, Cambridgeshire.

	Depth in inches, each month, in		
	1833	1834	1835
	Inches.	Inches.	Inches.
January	·9	1·2	1·14
February	2·98	·27	1·64
March	1·22	·54	2·9
April	2·92	·22	2·51
May		1·	5·12
June	1·28	·55	1·85
July	1·09	3·72	·68
August	2·65	1·92	·21
September	·71	2·6	3·8
October	1·83	1·02	3·82
November	1·35	1·	1·35
December	1·82	·94	·29
Total	18·75	14·98	23·31

ACTÆON.

THE PROPERTY OF BARON MALSZAHN.

Few horses have been presented to our readers with greater pretensions to beauty than this splendid specimen of the modern English Racer, which we have had exquisitely engraved by Beckwith, from an original painting, executed a short time before the sale of the Royal Hampton Court Stud, into which he was purchased for one thousand guineas.

Actæon was bred by Mr. Mills, in 1822, is a beautiful chesnut horse, in height about fifteen hands three, and was got by Scud, out of Diana, sister to Emily, (the dam of Emilius) by Stamford, her dam by Whiskey, out of Grey Dorimant by Dorimant, &c., &c. He is the sire of many winners, the most popular being General Chasse, for whom Sir J. Boswell has refused more than two thousand guineas. We have before observed that the Arabian grooms admitted the high *caste* of Actæon by making a *salaam* to him in acknowledgment of the purity of his blood and consider a few remarks on Eastern blood will not be deemed inadmissible at the present moment. The nature and character indeed of the horse of the desert are peculiarly adapted to an animal who like the race horse, is called upon to put its physical powers to the severest test, to which nature, aided by art, can submit. In the first place the Arabian horse possesses a firmness of leg and sinew unequalled to any other in the world. We have ourselves been surprised on passing our hand down the legs of the Arabians which were sent from Muscat which felt more like ivory than any thing we ever met with. This excellence which he owes to climate, arises from his having larger muscles than other horses have;—muscles and sinew being the sole powers of acting, and on them depend the lasting qualities of an animal going at the top of his speed. Bones being the weight to be lifted, serve only to extend the parts; and it is evident that such as are small, but highly condensed, like those of the deer and the horse of the desert, are by occupying less space, and containing less weight, more easily acted upon by muscular force, than such as are large and porous, and for a greater duration of time, without fatiguing the acting powers. But the excellence of the Arabian horse does not end with highly condensed bone, and flat and wiry leg, so much esteemed by those connected with the turf. All the muscles and fibres of his frame are driven into closer contact than those of any other breed; and by the membranes and ligaments being composed of a finer and thinner substance, he possesses the rare quality of union of strength with lightness so essential to the endurance of fatigue in all quick motions. He thus moves quicker and with more force, by reason of the lightness and solidity of the materials of which his frame is composed, and when to these qualifications are added the peculiar and deer-like elegance of his form and extraordinary share of muscular power for his inches, he appears to furnish all the requisites of the race horse on a smaller scale than that which now belongs to Britain.

Although it has been proved that the present breed of English race horses is no longer susceptible of improvement from foreign blood, it is nevertheless worth inquiring into the reason of the improvement of the horse of the desert, and indeed of all countries of the East, not advancing towards perfection, as that of our own breed has done, with the exception of the Wellesley Arabian,





Engraved by J. Rogers

ACTEON,

The Sire of Sir J. Boswell's General (haise).

London, Published by J. Rogers, Feb. 1834.

said to have been bred in Persia, (but the assertion is unaccompanied by proof,) who measured fifteen hands two inches high, all the rest that have been imported have been little better than Gallo-ways, which must be attributed to two causes; first, the want of being forced, as our own horses are, in their colthood by high keep; and secondly, by adhering too closely to the indigenous breed, or that whose blood is unmixed, by which means it has dwindled. Accurate observers must have noticed that the greater part of the horses brought to this country as Barbs and Arabians, have exhibited a palpable deficiency in the points contributing to strength, and the want of general substance is apparent at first sight.

It is true that their estimation of late years has so diminished in this country, that no great pains have been taken to procure stallions of the highest caste, although five hundred and eighty guineas were given for the black one at the late sale at Hampton Court, and four hundred and ten for the bay, both of which were sent to his late Majesty William the Fourth by the Imaun of Muscat, they were both purchased by foreigners; the black horse being for the King of Wirtemburgh, and the bay for the French government. Scarcely any mares have been imported, and several of those sent over have proved very unsatisfactory.

We are, however, inclined to think, that as the immediate descendants of such horses are found quite inefficient as race horses, and but few of the second or third generation have turned up trumps, unless, as a rational experiment, the breeding of *race horses* from Arabians is at an end, though it is a well known fact that some of the most brilliant *hunters* England ever produced were got by Arabian stallions, and that one by Lord Clive's Arabian was decidedly the best horse in Leicestershire in Mr. Meynell's day, over every description of country. He was the property of the late Mr. Childe, of Kinlet Hall, Shropshire, who is said to have been the first to introduce the present style of riding after hounds.

It would be an easy task for us to enlarge upon the subject before us, which we must bring to a close with a few remarks on the eastern horse, as connected with the English turf at the present day, owing to the doubts and uncertainties that hang over the pedigrees and countries of the most celebrated stallions and mares which laid the foundation of our present breed of racers; it is impossible to determine to which individual breed, whether to the Turkish, the Barb, the Arabian, or the Persian, are the greater advantages derived from them to be attributed. To us they appear to be pretty equally divided. To the Byerly Turk we are indebted for the Herod blood (sire of High-flyer); to the Godolphin Arabian, said to be a Barb, for the Matchem blood, which we most admire, as it is the stoutest of any and called "*honest*"; to the Darby Arabian (the sire of Flying Childers,) for the Eclipse blood; and to the Wellesly Arabian, believed to be a Persian horse, to the only real advantage gained to English racers by a foreign cross, in later years.

It must however, in conclusion, be observed that the most famous horses of the last century, such as Childers, Old Crab, Eclipse, and King Herod, did not appear on the turf before they were five years old; which leads us to suppose that the failure of horses subsequently bred, as they themselves were bred, from "*oriental blood*," and trained at an early age, may, in great part be attributed to the fact, of the immediate produce

of such horses requiring more time to come to maturity than those like our present breed of race horses which are further removed from them. This difference may, however, be partly owing to atmospheric change, as it is reasonable to suppose, that the produce of stallions and mares bred in the torrid zone, would come slower to perfection in a damper and colder country than it would have done in its own, from which we may infer that in the same ratio as horses were brought earlier to the post, and races shortened in distance, eastern blood became unpopular, and ultimately sunk into disrepute.

PERFORMANCES IN 1825.—At Newmarket Craven Meeting, Actæon started for the Monday's Riddlesworth of 200 sovs. each, h. ft., but was beaten by Rufus, Surprise, &c.; and in a match with Fleance at Newmarket First Spring Meeting, he was again defeated, he however carried seven pounds extra.

At Epsom he came to the post for the Derby Stakes of 50 sovs. each, h. ft., but was not placed, being beaten by Middleton, Rufus, Hogarth, &c.

At York August Meeting, for a sweepstakes of 25 sovs. each, he was not placed, being defeated by Buzzard, Fair Charlotte, and two others.

At Pontefract, he ran second to Brownlock, for a sweepstakes of 30 sovs. each, 10 ft., beating four others; and at the same meeting, for the Gold Cup, he ran second to Canteen, beating three others who were not placed.

For the Doncaster St. Leger Stakes, of 50 sovs each, h. ft., he was not placed, being beaten by Memnon and The Alderman.

In 1826.—At York Spring Meeting, for a sweepstakes of 10 sovs. each, for all ages, he ran second to that superior racer Fleur-de-lis, beating Catterick and three others with ease; and at the same meeting he again ran second to Fleur-de-lis for the Gold Cup, beating The Alderman, Der Freischutz, and Jerry.

At York August Meeting he won a 50l. plate, defeating Memnon, after a beautiful race, and carried off the 25 sovs. subscription, beating Mulatto, Fair Charlotte, and Cedric.

At Doncaster (for the third time) he ran second to Fleur-de-lis for the Doncaster Stakes, defeating four others, and at the same meeting he won the Doncaster Racing Club Stakes beating Florismart in a canter.

In 1827.—At York August Meeting he won one-third of the Great Subscription with 50l. added, beating Florismart, and ran second to Mulatto for another third of the same subscription, beating two others.

At Doncaster he walked over for the Racing Club Stakes, five subscribers, and started for the Gold Cup, but was beaten by Mulatto, Memnon, Fleur-de-lis, and another.

At Richmond he won the Gold Cup, beating Popsy and three others.

For the Gold Cup at Northallerton, he started but was not placed, being defeated by Nonplus and Purity.

In 1828.—At Catterick Bridge he ran for the Craven Stakes of 10 sovs. each, but was not placed, being beaten by Sarah, Gameboy, and Popsy.

For the Gold Cup at Newcastle he was defeated by Robin Hood.

At York August Meeting, for a sweepstakes of 25 sovs. each, he was beaten by Medora and two others.

At Doncaster defeat again awaited him, being

beaten for the Doncaster Stakes by Nonplus and Granby.

At the Caledonian Hunt he won the Gold Cup, defeating Sir Malachi Malagrowther, Mystery, and Glenamour; at the same meeting he won a 50% plate, beating Queen Elizabeth; and the King's Plate in a canter, beating Malek and Spring Kell.

In 1829.—At York Spring Meeting he ran fourth for the Gold Cup, being beaten by Velocipede, Laurel, and Nonplus; and at the July Meeting, for the Fitzwilliam Stakes he was placed third, being defeated by Mulatto and Moonshine. For a 50% plate at this meeting he was beaten by Granby and Mulatto, which terminated his racing career, after having run about thirty races.

BREEDING OF HORSES AND HORSE RACING IN FRANCE.

PARIS, JAN. 10, 1838.—The breeding of horses in this country has been greatly neglected by the agriculturists since the peace of 1815, in consequence of the little demand for the cavalry, so that that once important branch of the farmer's study was changed into the more lucrative one of tillage. France is greatly indebted to the glorious Revolution of 1830 for the numerous improvements that annually take place in its agricultural as well as horticultural advancement, but more particularly that of the amelioration of its breed of horses. His Majesty, Louis Philippe, who has resided so many years in England, and, therefore, able to judge of the importance that branch of agriculture was to the prosperity of that country, renowned for the superiority of its racers, hunters, hacks, cobs, dray, and other breeds of horses, and for the mounting of its cavalry, over every other kingdom in Europe, on becoming King of the French announced his intention of encouraging to the utmost that useful and profitable resource to the industrious farmer. Horse-racing, which, previous to 1830, was only known and supported by the equestrian amateurs of the Champ de Mars, has now become general throughout the departments, and although, perhaps, not equal to Epsom, Ascot, or Doncaster, they at present possess horses that may vie with some of the first rate Derby winners. The Chamber of Commerce and the different Agricultural Societies vote annually a certain sum, besides gold and silver medals, for the improvement of the French breed by crossing it by the English and Arabian stallion or mare, and every encouragement is given by the King, his Royal Highness the Duke of Orleans, the Prince de la Moskowa, the Duke de Guiche, Baron Fasquel, Count Hockart, Count de la Tour du Pin, Barons de la Bastide, de Vanteaux Royeres, Buton l'Eviq, M. de Gernigny, Bonire de la Salle, Count de Montendre, Lord Seymour, and other leading amateurs and breeders of horses. The race-course is not at present confined to Paris and Versailles alone; Boulogne-sur-mer, which may be considered, by the attraction it has for the English tourist in consequence of its romantic and healthy site, the Brighton of France, has its annual races, at l'Angeaise; as well as St. Omer, Dieppe, Cherbourg, Bordeaux, Nancy, Du Pin (Orne), Nantes, &c. &c., where the stakes and prizes vary from 10,000, 5,000, 4,000, 3,000, 2,000, 1,500, 500, 300, and 200 francs, besides minor stakes made at the betting-post. These races are not confined to horses of French breed solely, but, as an encouragement to the members of Foreign Jockey Clubs, they are open for the entering of horses of all nations. So useful is the breeding of horses considered by the two Chambers of the Legislature, that a sum is granted annually in the budget for the improvement of agriculture to the amount of 500,000 francs, in which the Minister of Commerce takes a great interest. Since this Government has taken possession of Algiers, Constantine, and other parts of northern Africa, some of the finest Arabian and Turkish stallions have been sent as presents to Louis Philippe, and which now adorn the royal stud, so that a few years hence it will possess as noble a race of "coursiers" as any in Europe. Besides the Agricultural and Horticultural Societies of Paris and the departments, a Society has been established for the improvement of the French breed of horses by the Viscount d'Aure and several other noted amateurs, who are desirous to see that important branch prosper. A splendid stone building is being erected, which will contain stables, riding-schools, &c., on the most extensive scale and beautiful style of architecture, applicable to its use, besides the most spacious grounds for grazing, and an Hippodrome, equal to many race-courses in England, for the breaking in and exercise of the young horses. This grand undertaking is situated near St. Germain-en-Laye, and the land has been purchased of M. Perrier at an enormous expense. The railroad from Paris to the former place passes near the spot, so that in a short time a new township will be built that will turn out most profitable to the spirited Society. France is

WALTHAM AND NORTH LEICESTERSHIRE AGRICULTURAL SOCIETY.

This society's show for hunting mares and geldings, and for brood mares calculated to breed hunters, took place on Friday the 5th inst., in one of his Grace the Duke of Rutland's paddocks, adjoining Croxton Park. The judges were Earl Wilton, Lord Forester, and the Hon. Col. Lowther, who jointly took great pains in making their awards, and gave universal satisfaction by their decisions. The Hon. Stewart Wortley kindly officiated as steward on the occasion.

Class I. To the owner of the best four-year-old hunting mare or gelding bred within the limits of this society	£20
To the breeder of the same	5
To the owner of the second best	10

The first prize was awarded to R. W. Baker, Esq., of Cottesmore, Rutland, for his chesnut gelding by (Wildboar's) Juniper; and the prize for the breeder of the same to Peter Sharpe, of Langham, Rutland.—The second prize was awarded to Mr. March, of Wartonby, Leicestershire, for his bay gelding by (Wright's) Juniper, bred by Mr. Rowland, of Stanford Hill, near Loughborough.—In this class there were 14 mares and geldings entered, and 12 shown.

Class 2. To the owner of the best three-years-old hunting mare or gelding bred within the limits of the society	£10
To the owner of the second best	5

The first prize was awarded to Mr. Norris, of Bottesford, Leicestershire, for his bay gelding by the Flyer, dam by Idris, bred by himself.—The second prize was awarded to Mr. Austin, of Grimstone, Leicestershire, for his bay filly by Norton, dam by Sir Peter, grandam by Old England (bred by himself). In this class there were 8 mares and geldings entered and 5 exhibited.

Class 3. To the owner of the best brood mare calculated to breed hunters, the property of subscribers within the society	£10
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This prize was awarded to Mr. Vincent, of Bottesford, Leicestershire, for his chesnut mare stunted to Emilius.

In this class there were 15 brood mares entered, and 14 shown. Mr. Sculthorpe, of Coston, sent his valuable brood mare too late, therefore the stewards could not admit her into the show paddock.

The show upon the whole was much better than could have been anticipated, it being the first show of the kind in this society. Such was the interest manifested, that it was estimated that more than 1,600 persons were present on the occasion, more than 1,000 of whom were on horseback, including a vast number of the first noblemen and gentlemen in the United Kingdom.

This show, in conjunction with others of a similar kind (it is hoped), bids fair to renovate the breed of horses in this country, so much impaired by the export of so many valuable brood mares into foreign countries.

greatly indebted to the advancement and improvement of its breed to Count de Montendre, not only for his able writings on the subject, but his personal labour in rearing some of the most favourite horses. A "Stud-book" has just been published by him, giving the names of all the stallions, fillies, and mares, of pure blood in France, born in the country, or imported from England, Germany, Arabia, and other parts, with a genealogy of their race, which forms a volume in 8vo. of about 500 pages, and highly interesting to the jockey, and sportsman, from which it appears there are at present in this country 184 foreign stallions, which will cover during the course of the year, of which there are 143 English and 14 Arabian; besides these, there are 257 mares, of which 238 are English and 18 Arabian.

The following celebrated stallions are named for covering this season at Paris, viz.:—Lottery, son of Tramp and Mandane; this stallion will only cover full blood mares; the number is fixed at thirty-five, at 100 francs each, and 10 francs for the groom. Young Emilius, out of Emilius and Cobweb, mother of Nell Gwynne and b. h. Middleton, at 50 francs, and 10 francs the groom. Windeliffe, out of Waverley and Catton mare; this stallion has won several races, and beat Jocko, &c.; at 50 francs, and 10 francs the groom. Selim, a fine Arabian stallion, at 30 francs each, and 10 francs the groom. These horses will commence covering on the 1st of February next. It appears that the Deputies of the department of Cantal have succeeded in buying over Mameluke to go to Aurillac, to cover in that renowned district for the excellence of its breed of horses. The Administration des Haras have purchased two fine full blood mares, which formed part of the stud founded by the late M. Leon Bernard, one of the most noted amateurs and breeders. They are Anna, by Whalebone, out of Themis; and Waverly mare, by Waverly and Evans, out of Walter. They are at present with colts—the one by Terror, and the other by Royal Oak, both first-rate stallions. France, therefore, since the sale of the Royal Stud of his late Majesty, William IV., at Hampton Court, where some of the best breeds were purchased by M. Lupin for this country, possesses a race-stud equal to any in Europe, and far more extensive, among which may be named Fleur-de-lis, considered one of the first in England, and the celebrated Arabian Mansourah.

T. S.

RUTLAND AGRICULTURAL SOCIETY.—With renewed pleasure we refer our readers to the bill of premiums offered by this society for the ensuing year, as determined at the general meeting of subscribers on Monday last, which was gone through with the usual spirit that has so long been a leading feature of this society.—We find that the time of exhibition will be one week later, in accordance with the Smithfield club, and that the society have adopted the plan of two days, considering that the public have not had that opportunity of judging the merits of the cattle as they demand from so important an exhibition.—On the retirement of E. W. Wilmot, Esq., of Pickwell, as the senior steward, he nominated T. C. Beasley, Esq., of Harston, as his successor, which was received with some warmth, and carried unanimously: on the retirement of Mr. Rudkin, of Langham Lodge, as the senior secretary, Mr. W. Baines, of Branton, was proposed, and elected unanimously to succeed him. It appears that there are some few additional classes, and that the society are fully determined to encourage animals bred within its limits, as will appear by the addition of four silver medals, with two gold medals (value five sovereigns each) for that distinct object, which, if acted up to with the usual spirit of the members, must ere long place the little county pre-eminent in its breed of cattle: we perceive also that the known patron of agriculture, Sir G. N. Noel, Bart., M.P., continues to offer his premiums for the encouragement of the smaller occupiers, which must lead much to the advancement of their interest. The bill for the present year 1838 contains the *unrivalled* sum of 239l. 15s., with eight silver medals and two gold ones, which together amount to no less than 260l.—*Lincoln Chronicle.*

LAMENT ON MY OLD GREAT COAT.

(From the Dumfries Times.)

Mine honest, trusty, rusty frien',
Wha mony a blustering storm hae's seen,
A comfortable hap thou'st been,
Fu' mony a day,
In blattering rain and frosts right keen,
A weary way.

It's no sae lang sin ye war new,
And beauty had surpast by few;
The vera thocht o't gaur's me grue,
Thou wale o' coats,
That thou maun gang to some auld Jew,
For twa three groats,

There in some filthy shop to lie,
Till scoured by Turpentine—a dye—
Mid stinking coats and breeks, or by
Some creeshy shirt,
Till some auld customer shall buy
Ye cheap as dirt.

When first fresh frae the hands o' snip,
Right smooth and glossy was ye'r grip;
Ye made me look just like a rip
Het frae the toon,
But time, alas! has made ye strip
Ye'r plumage broon.

Ye'r prime cost was past twa pun' ten,
What neist to do I dinna ken;
O! could the tailor's art but men'
Ye'r ugly tatters,
I'd wear ye (never fear me) then
For a' their clatters.

Sorry and grieved I sorely am,
Thou best five yards o' Petersham,
Ere clipt frae back o' Saxon ram,
Or English gimmer;
Ye're past the aid o' tailor Tam,
Ye tatter'd limmer.

I've brushed ye aft wi' meikle care,
To snod ye up for kirk or fair;
But noo I've never brush ye mair,
It's a' in vain,
Ye're grown sae poked and thread-bare
I'll let it alane.

The corners o' ye'r tattered pouch,
Can hardly thole the slightest touch;
Ye surely coore some auld witch
Within the lining,
For rusty nails and pegs all clutch,
An' rive the bin'ing.

Fareweel! o' thee I aince was fain,
An' noo I part wi' meikle pain;
I'm sure I'll never hae again
Sae gude a hap,
At least that I can ca' my ain,
Frae fit to tap.

The best o' frien's on earth maun pairt,
However short or lang their chart;
An' though it grieves my very heart
Wi' sorrowing pang,
It matters no' a single scart,
For ye maun gang.

TOLL ON FOREIGN CATTLE INTO FRANCE.—The Council General of Commerce, in its sitting of Thursday, gave their opinion, after a long and animated discussion, that the duty for the introduction into France of foreign cattle should be for the future paid upon the weight, and not by head, the duty being seven centimes the kilogramme (or oxen, and eight centimes for sheep, in no case to exceed the four-fifths of the present duty, *Paris paper.*

IRISH WASTE-LAND IMPROVEMENT SOCIETY.

INCORPORATED BY THE AUTHORITY OF PARLIAMENT.

Since the year 1809, when Commissioners were appointed to enquire into the nature and extent of the Bogs of Ireland, the population of that Kingdom has increased 33 per cent., yet no public effort has been made to give occupation to the millions dependent for subsistence on the cultivation of the soil.

It is stated in the reports made to Parliament, in pursuance of the Act 49 Geo. III. as also in the reports of the Emigration Committee of the year 1827, and in subsequent reports, that the number of statute acres of waste land capable of beneficial improvement is nearly five millions, being one-fourth of the whole Kingdom; and the waste or uncultivated surface has been shewn to contain.

Of flat Bogs.....	1,576,000
Of Bogs forming the covering of Mountains	1,254,000
Of convertible Mountain.....	2,070,000

The cultivation of these lands, which is strongly recommended by various Parliamentary Committees, would afford obvious and immediate means of local employment to the Irish labouring poor; but the difficulties which have hitherto prevented such a consequence may be stated as follow:—

1. The inability of the great landed proprietors to advance the capital requisite for reclaiming the waste lands.

2. The want of powers, owing to the entails and settlements of the large estates, for granting such long leases as would induce strangers to undertake the cost of such improvements.

3. The want of sufficient capital among the tenantry to enable them to make drains, roads, fences, and buildings, which are essential to the occupation of the land.

The impediment to the improvement of the entailed lands is removed by the Act of Parliament incorporating this society, which authorises tenants for life, and other incapacitated persons, to grant leases of 99 years to the society, who are empowered by the Act to take such leases, on which they will invest their capital by making such improvements as will enable the population of that country to obtain the productive occupation of it.

The middling, and even small farmers, in Ireland have a great deal of ready money in small sums, which they hoard up for want of the means of employing it; in proof of this (according to Porter's Tables) the increase of deposits in the Savings' Banks of Ireland since 1831 has exceeded 25 per cent., whilst in England and Wales it is not more than 8 per cent. These persons would take more land if they could obtain it, whereon to employ their capital.

The anxiety of the Irish people to obtain the use of land, their industry in the cultivation, and their means of stocking limited portions of it, are notorious.

England now pays to Holland, Belgium, and Holstein, 700,000*l.* per annum for the single article of butter, the whole of which might be produced in Ireland if her waste lands were improved.

In comparing the advantages between the investment of money for reclaiming the waste lands of Ireland and those in the Colonies, it may be stated,

That the price of labour in Ireland does not exceed one-fifth of that paid in the Colonies—this circumstance alone, placing the Irish cultivator, subject to rent, in an infinitely better situation than the Colo-

nial cultivator with a free grant of land. Ireland has moreover the best market for her produce, and every manufactured article supplied at the lowest rate of cost, while the reverse of these applies to the Colonies.

The principal cause of all the disturbances in Ireland is the difficulty which the people find in obtaining land, whereon to employ their energies and support their families. Thus there is rich land without occupation, a large diffused capital without employment, and a starving population in misery, for want of combining the best elements of a nation's wealth and prosperity by productive labour.

Parliament has removed the legal difficulties. The society call on the landed proprietors to join them in the execution of a measure so much to their own interest; a measure by which the owners of the soil will be enriched, the peasantry will obtain productive employment, and the shareholders will secure a liberal dividend on the capital invested in the undertaking.

THE YORKSHIRE METHOD OF CURING BACON.
—The pigs are (as they call it) hungered 24 and sometimes 36 hours, before they are killed, then hung 24 hours in a cool place. They are cut up and conveyed to leaden bowls, and having with the hand wiped salt over the swarth (skin), care is taken to stop the salt and saltpetre into the shank ends, in order that it may effectually reach the bone. The flesh side is then turned uppermost, covered with salt, and sprinkled with saltpetre. For a 20 stone pig, the proportions are one stone of the former and one pound of the latter. After lying about a week, the bacon is all removed—that which has been uppermost is put lowest, and more salt is added to those parts from which it may have disappeared. In three or four weeks it is fit to hang up to dry, and it has never, in a single instance, been known to fail. Mind the following obvious rules—1st. The pig must fast, this relieves the vessels that, in a loaded state, are apt to putrify. 2d—The killing must be quick and without irritation. 3d—Thoroughly cooled before salting. 4th—Not rubbed, as this only excites the putrefaction process, and you never can rub salt through the skin. 5th—Placed in lead or stone if at hand. 6th—Stop the salt well into the shank ends, and move it and add salt, as before directed, frequently.

AGRICULTURE AND COMMERCE.—The Minister of Agriculture and Commerce, M. Martin (du Nord), has given notice that the French government is fully aware of the great necessity there is of giving every encouragement to agriculture and commerce, for the happiness of the industrious and indigent classes of society throughout this populated country, that hitherto, notwithstanding all the assistance afforded by the different agricultural societies, it is found that agriculture is still far from being so flourishing as might be expected, and that, as the population increases, the supply of cattle and grain gradually decreases, so much so that France must have recourse to England and Germany, and the north, for the improvement of her horned cattle and breed of sheep. There are at present in this country 123 agricultural societies, and 303 agricultural committees, when before 1830 there were scarcely ten, and are annually increasing. Everything has been done by the present government to encourage agriculture in a pecuniary way, as well as by the different societies; but so neglected had it been for previous years by bad management and allowing the fruitful soil to run to ruin by improper cultivation, that it will be several years before the land will again be productive; and France, which at one period supplied England and other countries with corn, is now obliged to import it from England, America, and Africa.

ON AGRICULTURAL IMPROVEMENT.

SIR,—After spending many years of my life in mercantile business, my attention has been turned to agricultural pursuits, and being a constant reader of your paper I have been much struck with the accounts you have, from time to time published, of the system pursued by Mr. Blacker, in the north of Ireland. So much so, that I have been induced to purchase the *Landlord's Edition* of his pamphlet upon the improvement to be made in the cultivation of small farms; and find the arguments he advances in support of his recommendations so convincing and so well calculated to do good in this country as well as in Ireland, that I cannot help wishing it had more general circulation, and that landed proprietors in England would exert themselves to correct the bad habits of their tenants as it appears the landlords of Ireland are now doing. The slow progress of all agricultural improvement has often been the subject of remark as well as of regret, and the owners of land are very frequently placed in invidious comparison with manufacturers whose eagerness and activity to avail themselves of every improvement they can hear of, is very justly commended and held out for imitation.

Hitherto, as it appears to me, few landed proprietors have been induced to come forward and make any systematic exertions for the improvement of their estates, and the evidence taken before the late Committee on Agriculture, affords melancholy proof of the ruinous habits of the cultivators of the soil, over at least one-half if not three-fourths of the surface of Great Britain.

A person turning his attention to the consideration of this subject naturally asks himself the question—to what cause can this state of things be attributed—is it to the indifference of landlords to their own interests and the value of their properties, or is it to the want of business habits among the landed proprietors, which prevents, their knowing how to set about what they must evidently see it is their interest to accomplish?

Few I fancy will be inclined to believe that the class I allude to are at all chargeable with apathy or indifference as to their rentals, and therefore it appears to me that their inactivity is to be accounted for more from their being unacquainted with any practicable and safe mode of pursuing their object than from any other cause.

This practical and safe plan of proceeding—this desideratum, so important to the welfare not only of individuals, but also to the good of the state, seems to me to be afforded by the course recommended by Mr. Blacker, in the publication I have alluded to. Like many other important discoveries, its simplicity excites our surprise why no one has thought of adopting it before.

It is perfectly notorious to every one who knows any thing of the subject that there are districts in the United Kingdom where owing to superior cultivation the land yields three times as much produce as lands of the same quality do elsewhere; and it is equally clear that this difference of produce has existed in localities by no means very far removed from each other for the last half-century, and may continue to exist for centuries to come if no measures are taken to hasten the march of agricultural improvement.

It appears also perfectly plain, from the evidence already alluded to, that whilst the farmers in one part of the empire are reduced to the brink of ruin; that the farmers in other parts are making money and carrying on a successful business.

Now, what would be the natural course for the

landlord of the ill-cultivated lands to adopt? Would it not be, to bring competent persons from the well farmed districts to instruct his tenants in the improved modes of cultivation there practised, and to assist and encourage his tenants to follow their instructions? Now, this is precisely what Mr. Blacker does: he shows that the unproductiveness of the soil is, in the first place, from the want of sufficient manure; he shows, in the next place, how this necessary article can be accumulated by the growth of green crops, and house-feeding the increased stock which these green crops enable the farmer to keep. He shows that the only difficulty in at once entering upon the change of system, is the want of the manure necessary to begin with; and this he recommends the landlord to advance in lime or any other material—bone-dust, &c. &c.; and he recommends that a competent agriculturist shall be hired to go round the estate, from day to day and farm to farm, superintending and pointing out to each person what is necessary to be done, and showing on the ground how the crops he recommends should be cultivated, and how the soil should be prepared for them. Here is a plan at once simple and effectual to its end, which may be tried without any expensive outlay in buildings or otherwise, and may be abandoned without loss if found unsuccessful—but common sense forbids such an anticipation.

The agriculturist must be, of course, a man who understands his business. Such a person may be had from the very best farmed districts at an expense of 40*l.* to 50*l.* a year, and might be able to attend one or two very extensive estates. The entire outlay goes to the improvement of the land, and therefore the owner of the land need not be afraid of vesting his money on bad security.

By the adoption of this plan the tenants on estates situated in the most remote parts of the United Kingdom would at once be put in possession of that information in agriculture which would not perhaps reach them for another century. Let any one look over the agricultural evidence, and he will almost invariably find, that, wherever the farmers are worst off, the rotation pursued does not provide a sufficient number of cattle crops. Of course, the proper stock cannot be kept upon the land, and there cannot therefore be the required stock of manure; from the want of which, and of the fertilizing influence which the cultivation of grain crops is calculated to produce, the soil is stiff and retentive, and of course unproductive, and must always remain so until some change from such a system takes place. Mr. Blacker's pamphlet is addressed to small farmers, holding but a very few acres of ground; but the principle laid down, and the arguments advanced in support of them, cannot fail to be read with advantage throughout three-fourths of Great Britain. Whatever may be the size of the farms, and from the low price at which the tenant's edition is published, it is well worth the attention of landlords to distribute upon their estates.

Should you think these remarks worth insertion in your valuable paper, I may perhaps be induced again to address you on a subject of such general interest.

MERCATOR.

The thriving condition of the town of Aberdeen may be guessed at from two facts, viz., that at present there are no fewer than ten large vessels on the stocks there, and that buildings to the value of upwards of 50,000*l.* have been erected in the city during the summer. This is exclusive of the cost of rebuilding Marischal College, the subscription for which already amounts to nearly 8,000*l.*

CHOICE OF SEED GRAIN.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—In a number of your paper, published a few weeks ago, I observed an extract from a Welch paper, in reference to the cultivation of barley. The writer stated, that in making choice of seed, it should be the *very best* which could be procured, and this appears to be the prevailing opinion as to seed grain generally, the best and plumpest of wheat, oats, and barley being selected by our farmers for that purpose.

Circumstances have for some years led me to doubt the soundness of the practice referred to, and have given me reason to think that it is not founded on correct scientific principles. A few years ago, when in Scotland, I read in a Fifeshire paper an account of great crops of barley of superior quality grown yearly by a farmer in that county, whose regular practice was to sell his best and heaviest barley, using that of medium quality and weight for seed.

A couple of years ago a considerable controversy was carried on through the public papers, and many opinions stated, respecting the cause of the failure in the potato crops. Extracts from a prize essay on the subject appeared in the British Farmer's Magazine. The author, a Mr. Anderson, in Ireland, stated it as his opinion, that these failures were caused, principally, if not wholly by using un-ripened potatoes for seed.* A paper under the title of "*An Examination*" of this essay by "*A Farmer*" afterwards appeared. The writer denied that immature roots was the cause of failure, and entered at considerable length into the subject, maintaining that in the vegetable world, (and I believe also in the animal,) every thing which reached perfection had a tendency to degenerate, and that grain which had reached all the perfection in quality which it could attain in these countries, say wheat weighing 68lbs. per bushel, barley 58lbs. per bushel, oats, 48lbs. per bushel, ought not to be used as seed, inasmuch as the produce would be of a lower quality and lighter. I have myself experimented a little in the matter, and the results have been confirmatory of the above opinion. My object in troubling you with the present communication—if you think proper to give it insertion—is to invite attention to the subject, which seems to deserve consideration, and a fair trial as to the utility of the practice, for the farmer would be a considerable gainer if he could sell his best grain, and successfully use that of medium quality for seed. Perhaps some of your correspondents would favour us, through your columns, with their opinions upon the subject.—I am, Sir, your very obedient servant,
P.

December 30, 1837.

A NEW SORT OF WHEAT.—Mr. Allen, of Whitton, has been exhibiting a choice specimen of wheat, of his own culture, which for size, bulk, and quality, is said to be unequalled. The ear contains

* We have this season had a most convincing proof that the late failures in the potato crops were not caused by the immaturity of the seed, for here we are with one of the greatest crops ever known, produced from what? from bad, watery, unripened roots, it being well known, that the produce of 1836 (from which the seed for 1837 was taken), owing to the unfavourableness of the season, was so inferior, as to be almost unfit for food, over the whole United Kingdom.

twelve petals, each petal six grains, excepting the first, which has four very fine and perfect grains (the common kind of wheat usually contains none). It grows rather taller than wheat ordinarily grown, and the straw is exceedingly stiff and broad. The red specimen has about 90 grains in each ear, the white has only five grains in each petal, but in all other respects is equally as fine. Mr. Allen has as much in plant now (this being only the second season) as will produce about a coomb. The specimens may be seen at Mr. Wild's, fruiterer, in this town.—*Suffolk Chronicle*.

QUALIFICATIONS REQUIRED IN A FARMING BAILIFF.

(FROM THE CANTERBURY JOURNAL.)

He should be industrious, active, intelligent.

He should be first in the morning, and last at night.

He should not only order men to their work, but lead the way; and should on all occasions move from one department to another without delay, assisting and directing where requisite, but always keeping the adage in view, the "Eyes of a master do more than the hands."

He should be the first power to the machine, and the best implement on the farm, and should assist his master to manage the men, not the men to manage the master.

He should be punctual in his accounts, honest in his dealings, regular in his business.

He should every night note down in a book the operations of the day, the labour of the men, the corn and food consumed by the cattle and horses, the corn bought and sold, and having done this, write down what is required to be performed on the following day on the opposite side, which the next night's account will confirm; he should then inspect the premises—see that all the locks are secure, the cattle safely housed, and retire early to bed, as the only certain step to rising early in the morning.

He, by following these directions, will find next morning no difficulty in carrying out his arrangements, and will learn thereby that method and order are the first principles of action; this will, by his example, be communicated to the whole concern. The workmen will be regular, and even the horses will partake of the benefit; working tools, sacks, and implements will be taken care of, "there will be a place for everything, and everything in its place;" if the articles are lent to others they should be charged to their account, and credit given to them when returned—it is by thus attending to the minutiae of farming matters that the profit is obtained; "take care of the pence, and the pounds will take care of themselves."

He will take care at all times to be prompt and decisive with the workmen, and if they are idle, dissolute, or disorderly, admonish them: if no reform takes place, discharge them.

He will, on the other hand, always treat them with kindness and civility, and will not fail to obtain the same in return—he will never allow his men to indulge in abusive or blasphemous language, or in drunkenness, much less will he ever, by precept give them encouragement to follow the example, or allow them to suppose he can be guilty of such practices himself, or he will do well to discharge all that are in the continual practice of either.

He will endeavour to pay them fair wages, as the only sure mode to have work well performed, and to encourage his labourers to be honest. He will ascertain what is a fair price for labour by the piece, and give it—if he lowers the price in consequence of their making good earnings, he will, by so doing, check the exertions of the men, and induce them to cheat him on every occasion, for if men at piece work are not allowed to exceed certain wages weekly, they will always require a great price for their work, which they will, by their duplicity, make him believe is due for their exertions, when their labour is only half-bestowed.

THE FUTURE PROSPECTS OF AGRICULTURE.

"Ye generous Britons venerate the plough."—THOMSON.

SIR,—In casting a retrospective glance over the year which has closed over us, it is pleasing to have it in our power to note the progressive improvement of the rural art; at no previous period of its history has agriculture had a more general attention directed towards it, than at the present time; and a corresponding progress is happily being made in all its leading branches. The universal interest which the subject now excites, is such as to induce a hope that the day is not now indefinitely distant, when agriculture will assume a form and a status such as even the most enthusiastic of its votaries have not yet dreamt of. Years must unquestionless elapse ere this desirable consummation be attained, but while matters are steadily progressing towards the wished-for goal, I will endeavour to point out some circumstances, attention to which may tend to expedite our progress to the acme of the art. Much has already been accomplished by agricultural societies, which by stimulating by ample rewards the genius and enterprise of individuals, have contributed much towards a general improvement in rural economy. But it must be owned that the attention of these bodies has been too exclusively directed towards improving the breeds of live stock, while a vast field lay invitingly open for their attention in matters immediately connected with improvements in the cultivation of the soil. But this is the less to be regretted, seeing that unparalleled success has crowned their exertions in this department, our domestic animals having been brought by their exertions to a pitch of improvement attained by those of no other country in the world. But were the agricultural societies of the empire to hold out a handsome reward to the tenant farmer who drained, or otherwise improved his land to the greatest extent—to the landlord who expended the greatest sum, in proportion to the extent of his estate, in promoting agricultural improvement among his tenantry, or in the encouragement of genius and enterprise in any of the other departments of husbandry, they would better fulfil the objects of their existence as an agricultural body, because by this system the productive powers of the soil would be increased immeasurably, bread would become cheap, and increase with our increasing population; and thus every member of society would be essentially and lastingly benefited; whereas, by encouraging the feeding of animals to an injurious extent, nothing but loss accrues to society. And yet this is the only thing which seems to attract the attention of the agricultural societies of the present day. Recently a new species of institutions have sprung into existence, having for their object the promotion of agricultural improvement; I refer to agricultural museums, as yet, however, only in the bud of their existence, but which will contribute much towards an apt dissemination of useful agricultural knowledge; indeed, I am disposed to attach a very great degree of importance to institutions of this nature, and for very sufficient reasons. For instance, in a place such as that fitted up by the Messrs. Lawson, of Edinburgh, the agriculturist has presented to him the various kinds of agricultural plants and seeds, and usually with an account of their mode and plan of culture attached; *fac simile* representations of all sorts of agricultural implements and machines; systems of draining, and the mode of using the particular materials used; so that an accurate practical knowledge may at once be attained. A skilful mechanic, or enterprising agri-

culturist, visiting such an institution may obtain such a knowledge of the most useful agricultural implements and machinery, and of other matters connected with husbandry, as to enable him to construct, and introduce them to districts where previously altogether unknown. But another, and a not less important purpose, is served by such institutions. Here the skilful and enterprising among the community have the results of their genius, and products of their industry placed side by side with those of others, genius and enterprise are thereby stimulated, and much good may reasonably be expected to result from the general establishment of institutions of this nature. I have now enumerated some of those means which are being employed in forwarding the all important art of agriculture, but by far the most effectual, but hitherto a totally neglected means in our power of promoting this desirable object, is the education of those intending to make agriculture the subject of their pursuit in the years of their manhood. The education of the agricultural youth of this empire has hitherto, in the majority of cases, only embraced the common branches of education, such as reading, writing, and arithmetic. And thus the future farmer has for ages left the walls of the school-room, uninitiated in any of those sciences upon which agriculture is essentially founded, and compelled to plod his way in the hap-hazard path of his forefathers without the assistance of those beacon lights which a scientific education would have placed upon his path and conducted him in safety to an enlightened and profitable practice. This darksome cloud of educational indifference has too long overshadowed society, but a brighter day has happily now dawned. The benign rays of enlightenments Aurora have shot athwart society, and are fast effecting the dispersion of those clouds of apathy and ignorance, and apprised by the enlivening ray, society begins to arouse itself from its protracted slumbers and to become sensibly alive to the importance of a more general and a more comprehensive education, an education which in so far as the agriculturist is concerned *ought to mean* the instillation, among other things, of a knowledge of the physical sciences, such as botany, chemistry, mineralogy, and animal physiology, all which have an especial reference to agriculture, and until a knowledge of these sciences, as well as of the practice of the art is instilled into the mind of an agricultural youth at the age when it is susceptible of lasting impressions, farming on *correct* principles need not be looked for. The subject of education, indeed, is one which involves the vital interests of society, and as such deserves the attention of every lover of the species from the peasant to the peer. And happily the subject has been taken up in such a manner by the mass of society, and seconded as it is by an enlightened legislature, we have good reason to anticipate the happiest results, and sincerely do I hope that nothing may occur to damp the ardour of those patriotic individuals who so strenuously labour for society's best interests, and he who biased by party considerations, would offer opposition on such grounds to this noble object, deserves not to be considered as being imbued either with enlightened patriotism or sound philanthropy. These remarks I humbly trust may be of some use to those proposing at the present time the formation of an agricultural institution on a grand scale in the southern part of the island, embracing, as they do, subjects which ought to be taken especial notice of by every influential agricultural body.

I am your most obedient servant,

East Lothian, Jan. 11.

FILIUS AGRICOLÆ.

CASES OF DIFFICULT PARTURITION.

BY M. G. CANU, THORIGNY.

(From the Veterinarian.)

Many authors have treated in too succinct a manner, and others have omitted entirely, the mention of certain obstacles to parturition in our domestic quadrupeds, whether dependent on the unnatural situation of one or more of the limbs of the fœtus, or on its malformation. In human medicine, the art of midwifery is treated of at proper length, and particulars of the smallest importance are minutely detailed; while in numerous works every desirable information is given with regard to this essential part of surgical treatment. In veterinary medicine it is not so, and scarcely one of our best authors has devoted a dozen pages to it, while many scores are wasted on mere generalities; and the student who could have recollected that which he had seen at his school, but has only an indistinct remembrance of what is so lightly passed over, is often placed in a situation of much embarrassment, and has the mortification to see the unlettered practitioner of the village consulted and employed, while he is rarely employed; or when he is called in, he has as little confidence reposed in him as, unfortunately, he is enabled to repose in himself.

Being placed in a breeding country, and having met with various cases more or less difficult, I would beg to relate a few of them. They may be useful to others, and they may lead to a different and a better mode of instructing the pupil.

I will first refer to the presentation of the two anterior members of the fœtus, and the impossibility of raising the head and placing it in the natural position. We are then obliged, in order to save the mother, violently to pull at these limbs until we see the shoulders and the neck appearing in a mass, while the head of the fœtus is bent back and impacted in the flank. This position often depends on an unnatural formation of the fœtus, the neck being turned backwards, and the head convex on one side, and flattened or even convex on the other. If, after the birth, we endeavour to place the head in its natural position, we shall see it turn again upon the flank, and rest closely upon it. M. Delafai, sen., advises to pass a cord round the curve which is formed by this unnatural position of the head, and as near to the head as possible, and to give it to the assistants to pull, while he thrusts back the chest into the womb; and thus the head is occasionally brought out, and the birth effected. When I have been enabled to reach it, I have passed the cord around the lower jaw. When I have been unable to accomplish this, I have taken an iron instrument, two feet in length, having a ring at one end and a blunt hook at the other. I have implanted the hook in the palate if I could, or, if not, in one of the orbits, and I have kept it fixed there with my hand, while an assistant has forcibly pulled a rope attached to the ring, and the curve has unbent itself, and the head has been drawn out. I have thus saved many calves and colts, and even without essentially injuring the organs to which the hook was applied. These means should be employed whenever there appears to be a chance of bringing back the head into its natural position; but oftenest, and it is of that which I would chiefly speak, it is impossible to introduce even a finger between the neck and the body of the fœtus. The fœtus must then be drawn out in the position in

which it is found, or recourse must be had to a cutting instrument. Will it be prudent to free the passage, in some measure, by detaching the shoulders one after the other? I think not. How shall we, after that, be able to act upon the fœtus? Where will be the *point d'appui*? Will it be possible to cut through the muscles at the base of the neck, and to disarticulate the last cervical vertebra, or the last but one, in spite of the violent and reiterated struggles of the mother, especially after she has suffered much from our previous attempts to deliver her? I do not think that this could be done. It would be better to adopt the course recommended by M. Thibaudeau (*Recueil*, No. de Mars 1831): to remove one of the fore limbs entirely—to cut through the costal cartilages—to open the chest through its whole length, and to extract its contents. By this means the ends of the ribs will overlap each other, diminishing the volume of the fœtus, and facilitating its passage, notwithstanding the resistance offered by the bent neck. I am grateful to M. Thibaudeau for teaching me this mode of proceeding. I had no idea of it, when occasionally I have exhausted myself in useless efforts to accomplish the parturition, and when, in two instances, I was compelled to draw out the fœtus by main force in the position in which it had presented itself. It was an extreme measure, to which I was exceedingly repugnant; and I acknowledge that it may well appear a rash one to the majority of my veterinary brethren.

CASE I.—On the 1st of May, 1831, I was sent for by M. Isabel, of Precorhain, to see a mare that for seven or eight hours had been vainly attempting to foal. The fore legs were well presented, indeed they had been drawn down; but when it was observed that the head did not follow, the assistants had ceased to pull at them. It was a strong mare of about seven years old; she was continually straining—she was completely covered with perspiration, and appeared to be very much distressed. I introduced my arm, but I could not find the head; a hard round mass closed the entrance into the pelvis, and compelled me to withdraw my hand. Shortly afterwards, however, I made another attempt with somewhat better success. I introduced the whole length of my arm, and following the direction of this body, I at length touched the tip of the ears with the extremity of my fingers. In vain I endeavoured to change the position of the head, or to turn the neck in the slightest degree. I could not introduce my fingers between it and the shoulder.

I then warned the owner that he must not reckon upon the foal, and that the mother was in imminent danger. Not seeing any method of saving her but by extracting the foal by force, I proposed to attempt it, and, having obtained his consent, I fixed a rope on the fore limbs that were presented, and at which three assistants were to pull—two others with a girth placed between the thighs held the mare, who was lying down. I then ordered the assistants to begin to pull, and, after the exertion of all their strength, the fœtus was extracted dead, with the neck bent on the ribs. We attempted, but in vain, to place the head in its natural position—the right side of it, flattened and even crushed, perfectly fitted a concavity in the right flank.

The vulva was a little torn at its superior part; it was much swelled, and its lining membrane was of a violet colour. The mare lay three days before she attempted to get up. Venesection,—spare diet—gruel, in which nitre had been dissolved—injec-

tions, and the application of a bran poultice to the loins, were the means adopted. The vulva and vagina were bathed first with a decoction of marsh-mallows, and, afterwards, with one of bark—large sloughs were gradually detached from them—a slight scissure remained on the superior part, and, for a long time afterwards, a white purulent foetid matter was discharged from the womb.

It subsequently appeared that, although she was no less than seven years old, her croup had changed its form: previously it was a little depressed, and the attachment of the tail was low. The ligamento-cartilaginous substance which had united the sacrum to the os innominatum had been partially torn, and the croup had approached almost two inches nearer to a horizontal position. The owner, contrary to my opinion, thinking that she would no longer be fit for breeding, sold her to a neighbour, to whom she afterwards brought two good colts.

CASE II.—Feb. 12th, 1832. A strong draught mare, five years old, but that had been blind from a year old, belonging to M. Gillet, of Giesville, had been making violent efforts to foal during more than three hours. When I arrived, the farmer and his people had been attempting to assist her, and the fore legs had been brought almost half way out. I introduced my hand, and found, as in the preceding case, the rounded mass, firmly closing the entrance to the pelvis, and, after forcing my hand onward, I could just touch the poll of the fœtus. I attempted, for more than a quarter of an hour, to push the body back, and to replace the head and neck in their natural position; but in vain. I then proposed to the owner to attempt to save the mother by extracting the fœtus in the position in which it presented itself. Four assistants were sufficient to accomplish our purpose, and no accident occurred. A few hours after parturition she got up, and in fifteen days was sent to her usual work. This colt, like the other, had its neck turned backward, and its head flattened on the flanks. It died a few moments after its birth.

CASE III.—Dec. 17th, 1830.—M. L. Hebert, of Saint Louet, seeing one of his cows, four years old, straining to calve, drew forward the fore-legs, which were beginning to present themselves. Observing that the labour did not advance, he soon ceased to interfere. An instant afterwards, however, the efforts of the mother being redoubled, he tried again to assist her, but without effect. The fore legs were now more advanced, but the head did not appear, and, on introducing his hand into the vagina, he could not feel it. He then started for me, forbidding his servants, in the mean time, to do any thing to the cow. They obeyed his directions, and contented themselves with looking at her now and then. We arrived in about an hour and a half, and were told that we should find her in the same state, for they had seen her not a quarter of an hour before. On entering the stable we found, to our surprise, a calf yet living lying behind her, which she had produced without assistance, and whose head and neck were bent upon the right side of the body. It lived only two days, and in three or four days afterwards the cow was apparently as well as ever.

CASE IV.—Feb. 11th, 1834. M. Roquais, of Condesur-Vire, sent for me to look at a heifer that was unable to calve. She was in good condition, healthy, and had gone eight months and six days of her time. As in the former cases, the fore legs alone presented themselves. The beast was straining violently, and sadly tormenting herself. I

soon recognized this bending back of the head, and the extreme difficulties which such a position presented in a heifer. I abstracted ten pounds of blood, which did not in the least diminish the frequency and strength of her pains. I again introduced my arm, and could just feel the base of the ear. I attempted many times, but in vain, to pass a cord between the neck and the body of the fœtus. I tried to turn the head, in which I did not think there was any malformation, but without success.

My colleague and friend, M. Le Peu, having come to pay me a visit on that day, I went in search of him, thinking that his arm, longer and stronger than mine, might give a more favourable direction to the head. After several efforts he did change the position of it, which assumed that of a horse that lowers his head and bends his neck to avoid the action of the bit (*un cheval qui s'enca-puchonne*). We were then enabled to fasten a small rope round the lower jaw; but it was soon detached, and brought away with it the extremity of one of the branches of the jaw. I then fixed one of my crochets in the orbit of the eye; but we made no progress.

The vulva was now much swollen, and of a deep red colour; the passage was considerably diminished, and our patient exhausted. We determined on embryotomy.

I detached the skin from above the knee to the inner face of the sternum, and thence to the shoulder. I cut out a considerable portion of the sterno-humeral and sterno-sub-scapular muscles, (the pectoralis transversus and pectoralis parvus), and then drew out the limbs, thus prepared, and easily detached them from the thorax.

The crotchet remained implanted in the orbit, and was now very useful to me. I fixed another under the cervical ligament, and after many efforts the head presented itself. We then placed a cord round the neck; but we were obliged to exert very considerable force ere we could bring out the chest, and, afterwards, the croup. The calf was large with relation to the pelvis of the mother. The head was well formed, but its position had been unnatural.

The mother now claimed all our care, and proper measures were pursued. On the following day she found her way into the stable in search of food, and yielded on the same day nearly a gallon of milk. The lips of the vulva were very much swelled, and so they continued on the morrow, although they had been diligently fomented. She then appeared to be doing well, and it was agreed that she should soon have a little hay; but on the third day she was dull and feverish; her teats were become flaccid, and yielded no more milk—the vulva was still more swelled, and exhaled a putrid smell, and on the following day she died.

We examined her after death, and found the uterus very much inflamed; its parietes were more than an inch in thickness; and the submucous cellular substance was infiltrated by a yellow serosity. There were several large gangrenous patches in the vagina.

CASE V.—May 1st, 1831. M. Acelot, of Pontbellenger, sent for me to a mare that had been four hours in labour. She was ten years old, small, very fat, and had previously produced several good colts. She was very much exhausted, and covered with perspiration; yet her pains continued without intermission. Both the fore and the hind legs presented, and to an equal extent, namely, almost to the knees and the hocks. When I introduced my hand, one of the throes of the

mother would repel it in spite of me, and the entrance into the pelvis was entirely closed by the fœtus. This was the first time that I had met with such a case, and I was very much perplexed. I attempted, long and fruitlessly, to return the fore extremities, and bring the hinder ones farther down, and then to return the hind extremities and bring the others farther down. More than half an hour passed in this laborious work, and I had almost determined to have recourse to embryotomy.

I however tried one manœuvre more. I fixed a rope on each of the hind limbs, and confided it to my assistants. I then, with both hands in the vagina, seized the fore legs above the knees, and endeavoured to bend them, and to push them backward. At the same time, my assistants exerted their strength at the hind legs; and I had the pleasure to see the croup gradually advancing and the fœtus was abstracted, all four legs presenting at the same time, but the fore-legs pushed somewhat upwards, and coming last. It died two days afterwards, but the mother was soon well.

M. Dufour, too soon lost to veterinary medicine, afterwards told me that this was a method of proceeding which he had been accustomed to adopt, and with success, instead of having recourse to the knife, as most authors had advised.

CASE VI.—*March, 1833.* A cow, five years old, afforded me an unusual case. On my arrival, I found presenting at the vulva, a head and six extremities. It was difficult for some time to distinguish the fore legs from the hind ones, and those of one fœtus from what belonged to the other. The head had only half protruded, and the fore legs of the fœtus that had the best position were not farther advanced than those of the second. The efforts of the mother operated equally on both of them, and the labour was making no progress.

That I might not make any mistake afterwards, I attached threads of different colours to the legs of the one and the other. With one hand I endeavoured to force back the fœtus which presented all four legs, while with the other hand I attempted to draw forward the one whose two fore legs alone were to be seen; but I was unable to accomplish my purpose. When I pushed back the foremost one, the hinder one presented itself, and *vice versa*. I thought, however, that I could take advantage of this; and placing cords round the legs of the one that was in a natural position, and giving them to two assistants, and then seizing the one whose four legs presented, grasping the anterior legs in one hand and the posterior ones in the other, and pushing them back with considerable force, while my assistants endeavoured to pull the other forward, and the cow fortunately helping us at the moment with a more than usually violent effort, our object was accomplished. When the chest of the one that was drawn forward reached the brim of the pelvis, I was compelled to quit my hold of the other, and withdraw my hand; but I had forced the other sufficiently back, and there was room for the first to be expelled.

The four legs of the other immediately presented themselves again. I adopted the same measures as in a former case. I fixed two cords around the hind legs, and gave them to my assistants. I seized the fore legs above the knee, and bent them and pushed them backward, while my assistants pulled at the hind legs; the croup presented itself, and the labour was presently accomplished. The first calf was the smallest, and died on the same

day; the second was reared. The mother was kept in the stable a few days, and then dismissed.

CASE VII.—*April 1st, 1825.* A black mare, seven years old, was turned into a field, and, it would seem, presently afterwards fell in labour. The servant did not return to her for some hours, and then he found her in so pitiable a state, that before he advertised his master of what had happened, he ran for my father, whom I accompanied to the mare. We found her lying down covered with sweat, and making incessant vain efforts to expel the fœtus. Her struggles had been so violent, that she had laid a place bare with her head and her feet nearly two yards in diameter. The upper eyelids were excoriated, and so much swelled that the eyes were nearly closed. The colt was dead, and apparently in a perfectly natural position: it had been expelled as far as the chest.

A neighbour who had run to her assistance, had endeavoured to draw it entirely from her, but without success. We attempted the same thing, and also failed. I introduced my hand with much difficulty, and found the thighs of the colt fixed against the sides of the pelvis. The position was somewhat like that of a dog sitting, his thighs apart from each other, and the stifle joints projecting against the sides of the pelvis, rendering it impossible that the labour should advance.

As it was not possible to return the fœtus, my father separated the portion which had protruded from that which still remained in the vagina and uterus. He then made, on each side, an incision along the cartilage of the sternum. The abdomen was presently emptied. He disarticulated the last dorsal and the first lumbar vertebrae; I facilitated these manipulations by holding the labia pudendi as wide apart as I could. The mother, who had been perfectly exhausted, permitted him to turn the hind quarters in the womb. He seized the posterior limbs, affixed cords to them, and the expulsion of them was speedily effected. Due care was then bestowed on the mother, and at the expiration of twenty days she returned to her work.

CASE VII.—A parallel case afterwards occurred to me. A farmer had turned his mare, big with foal, in a field at a little distance. Knowing that her time of foaling drew near, he often went to see her. On June 4th, 1831, he found the foal dead, with the anterior part of it expelled, and hanging from the vulva—the mother very little disquieted about the matter, and occupied in grazing. He quickly obtained assistance, and endeavoured to draw away the remaining part, but in vain, and the throes of the mother had apparently long since ceased. He sent for me. I found the foal in precisely the same position as that which my father had removed. I employed the same means, and with similar success. The mare was detained only a very few days in the stable.

Résumé de Méd. Vét. Aug. 1837.

ON SPAYING COWS.

SIR,—Having heard that the operation of *spaying* has been successfully carried into effect on milch cows, and that the cows so operated upon have continued to give milk for three or four years, I am induced to beg the favor of some of your intelligent readers to acquaint me where I can procure the best practical information on this important subject. I have the honor to be

AN OLD SUBSCRIBER
TO YOUR VALUABLE JOURNAL.

ON THE VALUE OF THE GLOBE
MANGEL WURZEL.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

RESPECTED FRIEND,—I trust although I am not a constant reader of thy interesting and valuable journal, it will not operate as an objection to the insertion of matter likely to further the cause now so warmly and laudably espoused, of improvement in agriculture, a subject with me of peculiar interest, not exclusively in a pecuniary view, but from the rich source of sensible delight afforded in the witnessing the various and wonderful operations of nature; whose powers, by the wisdom of an overruling Providence, are made subservient to man, in proportion as they are cherished or abused.

Being an undeviating rule with me, to give an impartial trial to all new agricultural productions, to reject that which appears bad, and retain that which is good; my present object is to make known its beneficial result in the case of *globe mangel wurzel*, that others, who perhaps without cause, are prejudiced against it may be induced to imitate my example as opportunity offers, and reap the like advantages.

As the *globe mangel wurzel* (of which there are three varieties, red, yellow, and white,) is a species of that root comparatively unknown, it may be as well to remark that its form is very similar to that of the white or green globe turnip: more assimilating with the Swede in its habits of growth, and strictly maintaining its proper character, in the singleness and proportion of its tap root, which is an essential qualification in all tubers.

In the autumn of 1835, I was questioned as to whether I had ever seen the globe mangel wurzel. Replying in the negative, the individual promised to furnish me with a few roots, the best of which I selected, and planted for seed the ensuing spring, at which time I procured from the same person a small portion of seed for immediate use. Subsequently mentioning the possession of it at one of our principal markets amongst agriculturists, I was a little disappointed to hear it condemned in unqualified terms, from the supposition that it could not produce near the weight of the long; wanting the distinguishing characteristic of yielding as much above the ground as under it. But the result of the first trial, in the same field, and under precisely similar treatment as the long, was so much in favour of the globe that its merit with me and several who witnessed it, was so far established, as to induce me to sow only sufficient long, to produce an additional proof of its inferiority. In my case the result is a decidedly increased quantity and quality, (although as last year both were grown in the same field, and side by side) from a given space of ground, and in others, similar results have transpired, being three, four, and, in one case, five tons weight per acre more of the globe, than of the long. Added to this, its superiority as a keeper is unquestionable. The reason with me is obvious, for the virtue and quality of the root being concentrated in its globular form, whereas, in the long, the want of that density and close texture, render it more exposed to the action of the air, which absorbs that portion of succulent matter indispensable to its proper keeping, for the purposes of late feeding, in which its paramount value consists. But further from the character and habits of the globe mangel wurzel it is calculated to, and from my own repeated experiments, I have proved it will undergo much greater hardship from frost than the

long; for if the latter is of good stock and properly cultivated, it will stand as much out of the ground as it does in, and before it is fit to pit, one-third at least, will have acquired a reclining posture, the leaves will cease to afford their natural protection, and the body of the root in case of an early severe frost becomes inevitably much affected. I have seen crops much injured from this cause. In the globe this is never the case, as from its natural position (viz., that of the Swede,) the leaves form an unailing canopy, and certain protection from any but the most severe frost, the texture of its outer rind is finer and less penetrable than in the long, and I am satisfied, it might with but little precaution be allowed to remain on the land in the same manner as Swedes to any period.—I am respectfully, thy friend,

W. MATTHEWS.

Claypits' Farm, Earls Colne, Essex.

MRS. FERGUSON AND HER TENANTRY IN EAST LOTHIAN.—On Friday last the tenantry of the baronies of Dirleton, Innerwick, and Stenton, met in the George Inn, Haddington, to decide on a measure that for some time past has been in agitation among them, when it was unanimously agreed upon that they should request Mrs. H. N. Ferguson to sit to an eminent artist for her portrait, to be presented to Mr. Ferguson, as a testimony, though very inadequate, expressive of their high esteem and regard for her as their ever-considerate and liberal landlady; and in a very few minutes 270*l.* sterling was subscribed for that purpose, the subscription being restricted to her own tenants, exclusively. A committee of their number was appointed to intimate the same to Mrs. Ferguson, and to request the honour of her concurrence thereto. It is almost unnecessary to add, that this excellent lady, in her anxiety to promote the welfare of every individual connected with her extensive and valuable property, nobly seconds the efforts of Mr. Ferguson, her husband, the justly popular Lord Lieutenant of Fife, whose avowed principle of action is, as applicable to every man with whom he is concerned, that he should obtain as far as possible a full and liberal share of the fruits of his own honest industry.—*Scotsman.*

NEWLY-INVENTED CARRIAGE WHEEL RETARDER.—We have pleasure in stating that Mr. John Houlston, of Wellington, in Shropshire, at present residing at Bradford, has applied for letters-patent for his admirable and ingenious invention of a carriage wheel retarder, which promises to supersede the slipper and all other means at present in use for that purpose. The ingenuity of the invention, as well as its usefulness, when considered in connexion with its other valuable properties, we think merits, and we doubt not will obtain public patronage. Among its advantages the following may be enumerated;—1st. That the two hinder wheels may be cramped more or less, at the option of the driver, without the necessity, as at present, of stopping the carriage, and a great deal more friction may be applied than with the common slipper, without the least strain upon the wheels. 2nd. In an attempt of the horses to run backward, the hind wheels may be immediately locked, which would render the carriage as secure from a retrograde movement as if backed against a wall, and at the same time the wheels are at perfect liberty to move forward. 3rd. Another advantage, and one of no trifling importance particularly to private carriages, is, that the machinery is neither cumbrous nor unsightly, and not liable to damage by frequent or violent usage, dirty roads, &c., the whole being enclosed in a light box, which is a perfect security against the admission of dust or dirt of any kind, neither when necessary to be applied, is it attended with the slightest noise. 4th. In frosty and slippery weather, when the common slipper is perfectly useless, the retarder may be used with considerable effect, as the wheels revolve at the same time, that the friction is applied.—*Doncaster Gazette.*

NEW MANURE.

A RIVAL TO MR. KIMBERLEY.

PROSPECTUS OF A PROCESS FOR OBTAINING CHEAP AND VALUABLE MANURE, WITHOUT THE AID OF CATTLE, INVENTED BY M. JAUFFRET, OF AIX.

A method has been discovered in France of making manure as it may be wanted, without cattle, in 12 days, and with great economy, as appears from a report made to the committee of the Academy of Agriculture at Paris, by M. Chatelain, its secretary, who, with M. Cailleau, president of that committee, M. de la Gerandiere, president of the academy of agriculture of Elois, and the Marquis de Saint Croix, were appointed to examine into the merits of M. Jauffret's invention.

These gentlemen report "that by a cheap wash or lye, the ingredients of which are to be found in all places, and which every cultivator can make on his own land, all sorts of herbaceous and ligneous substances, such as heather, furze, brambles, and even the living dogstooth, can be put into a state of rapid fermentation, and not only these substances, but even earth itself, be its nature what it may, can be converted into a valuable manure.

"That the manure produced by this new system is quite as valuable as the best horse litter; its effects are visible upon several successive crops; and it can be obtained with perfect facility at pleasure.

"That M. Jauffret supplied the committee with numerous and undeniable proofs of experiments, ranging over a period of nine years, in five communes of the department of the Bouches-du-Rhone, which trials were made upon an extensive scale, on different kinds of soils, and on various seeds, plants, and trees. The success of those trials surpassed the most sanguine expectation, as has been attested, 1st, by the Academy of Aix, (annual public session 1835, at 38 and following pages of the report); 2d, by the circular of the prefect of the Bouches-du-Rhone; 3d, by 38 certificates * from most respectable inhabitants and farmers of that department, founded upon repeated experiments made by themselves; and 4th, by the declaration of well informed proprietors of the department of Vaucluse, who for years have attentively watched the trials of the Jauffret manure.

"That in order to convince themselves more thoroughly on the subject, the committee wrote, unknown to M. Jauffret, to some individuals who were most distinguished by their agricultural science, and who had given certificates to the inventor, and that their replies, which are annexed to the report, are of so satisfactory a nature as to leave no doubt on the minds of the committee of the importance of the discovery.†

* A printed copy of these certificates may be seen at Messrs. Thomas Gibbs and Co., Seedsmen and Nurserymen to the Hon. Board of Agriculture of England, and to the Board of Agriculture of Sweden, corner of Half-Moon-street, Piccadilly, London.

† Mons. Gauthier de Vaucluse, who is about to publish a new Atlas of Agriculture, says, (in print at Marseilles, 1832,) "M. Jauffret, an intelligent farmer and acquaintance of mine, possesses exclusively the valuable power of converting, in less than a week, all vegetable substances, whether dry or not, into dung of good quality, without spreading them

"The committee enter into the following details of the process:—

"By means of a cutting machine, the cost of which is about 600 franks (15*l.*) and which, after a careful examination, appeared well adapted for the purpose, three men and a horse can prepare 180 quintals, or 7,200 kilograms (about seven tons English) of manure per day, and the machine is easily erected. Ten quintals of straw produced 40 quintals of manure, this is effected either by the addition of the lye, or by the fermentation dilating the material operated on.

"The Jauffret process admits of greater economy as to labour, for the wooden cistern, and the ingredients of which the lye is made, may be carried to the field which is to be manured, and the compost prepared on the spot; and thus the carriage of the vegetable matter from the field to the yard, and back again from the yard to the field, is saved; the escape also of carbonic acid gas, one of the most valuable component parts of manure, which takes place during removal, is thus prevented. The inventor asserts, moreover, that he can vary the degree of fermentation, to suit the defects or qualities of different soils; and as he can raise the heat caused by the fermentation as high as 60 Reaumer (167 deg. Fahrenheit) his progress has the additional advantage of destroying the germ of all noxious herbs, which might foul the land.

"That in considering this process, the committee were struck with the advantage that might arise from establishing manufactories, not only on large farms but near towns and villages, to which every cultivator might bring his refuse vegetable matter to be converted into manure. The cutting machine might be worked either by horse, water, or steam power.

"The Jauffret process will be advantageous not only to large proprietors, (by whom an expense of 600 franks (15*l.*) will scarcely be felt), but it will be more important and useful to small farmers, who can cut their weeds by

as litter, or even submitting them to the tread of cattle. The change is effected, as if by enchantment, by means of a lye, with which he sprinkles the straw, herbs, leaves, plants of all kinds, even woody stalks of a finger's thickness, previously dividing them to a certain extent by a very ingenious operation. Such is the action of the lye, that forty-eight hours after the matters are heaped, their fermentation becomes as it were, volcanic: volumes of smoke announce the decomposition at a considerable distance; and a poor and spent soil may, without delay, receive, in the form of an excellent manure, that which a week before could have done nothing towards rescuing it from a state of exhaustion."

Like all other interesting discoveries, this has been the subject of fierce attack; but experience has vindicated the inventor. Following the example of many landed proprietors, I determined upon making trial of this important manure, and I declare it equal to that of well-fed horses. M. Jauffret asserts that he can at pleasure increase the dose, and even confer all properties required by the nature of the soil on which he uses it.

One single horse cart load of straw, or other dry material, produces more than two of good dung. The inventor charges 5 franks (2*s.* 6*d.*) for each cart load: probably to those who should effect the operation themselves, the expense would be diminished by one-half.

The advantages of such a process are incalculable.

hand, and prepare a quantity as perfect as any made by the machine.* As to the conversion of earth into manure, any one can make it without the help of the machine invented by M. Jauffret, and the manure made from earth by this new process, is not less valuable than the compost. Thus, those who have no cattle to feed may employ all their fodder for manure; others can render available weeds, briars, dogstooth, thistles, &c.; and those who have neither straw, fodder, nor weeds, can convert earth into manure, so that no discovery was ever more capable of easy or general application. The Jauffret process tends to supply agriculturists with new and powerful means of increasing their wealth, especially in the case of poor-land farmers, who usually find it difficult to obtain a sufficiency of manure."

TO THE RIGHT HON. EARL SPENCER,

PRESIDENT OF THE SMITHFIELD CATTLE SHOW CLUB.

MY LORD,—It is with great pleasure and delight I witness, year after year, the honourable example that you set to the nobility and gentry of this great agricultural kingdom, by the unwearied and indefatigable exertions you make for the benefit of that most useful meeting, the Smithfield Cattle Show. By such exertions, my lord, accompanied with your presence, you give to the breeders and graziers of this country such a stimulus to their efforts and skill, without which, the Smithfield Cattle Show would fall very far short of the proud and high situation on which it now stands in the estimation of the public.

Having been rather a large stock-master for upwards of 30 years, and having with great delight witnessed the great improvement that has taken place in the different breeds of sheep in that time, materially assisted by the Smithfield Cattle Show, and such meetings, in different parts of the kingdom, I can but regret, and am surprised, with many of my neighbours (sheep breeders), to see a system practised and pursued year after year, at the Smithfield Cattle Show, which I venture to presume, has never once occurred to your lordship or to the committee, in the selection of the judges for the sheep. It is true there are but two sorts of sheep shown for the prizes, but they are as different in their characters, merits, and qualities, with each other, as to make it totally impossible for any men, appointed as judges, to be at all equal or competent to discriminate on the merits, or to detect the demerits, of either sort of sheep, of which they are not breeders or feeders—or, in other words, it is impossible for breeders of long-woolled sheep to be competent judges of Southdown sheep, or Southdown breeders to be judges of long-woolled sheep.

Permit me to ask any breeder or grazier of long-wool sheep, if he would venture to attend the sale or letting of an eminent Southdown breeder, to select a tup, of a first-rate description, for himself or his friend; or a Southdown breeder to attend a Leicestershire letting of tups for the same purpose. I think a first-rate breeder of cart horses might with as much propriety attend a sale at Messrs. Tattersall's to select a blood horse from a high-bred stud.

Without, for one moment, doubting the ability and

* Mons. Jauffret states, the machine necessary for a small farmer is only a barrel and a pail, and which can be carried with ease from one part of the farm to the other. It is set to work in the open air, wherever materials happen to be; thus the fields that are so distant as to be seldom manured, may by this manure be rendered highly productive. The mixture is made without fire, and every thing concurs to render it economical.

competency of the breeders and feeders of long-wool sheep, to be judges of the sort of sheep with which they are conversant, I do hope that in future, those gentlemen will not undertake to decide on the merits of Southdown sheep, by far the very best, and almost universal sort of sheep, for the light land of this kingdom. I assure your lordship that I have no object to answer in thus venturing to address you on this subject, but to preserve the high character the Southdown sheep have attained, by the exertions of some of the most eminent and indefatigable breeders of them.—I have the honour to remain, your lordship's most obedient and humble servant,

Dec. 23, 1837.

A SURREY FARMER.

TO THE MEMBERS OF THE SMITHFIELD CLUB.

GENTLEMEN.—I cannot refrain from making a few observations in reference to the decision of the Judges on some of the fine cattle exhibited at the late show. That it is exceedingly difficult to find men fully qualified to be judges of both sheep and cattle, is most certain, and therefore I have long been of opinion that it would be much better to have three for the cattle, and three others for the sheep and pigs, or to appoint four—one of the three to withdraw after the merits of the beasts have been decided upon; and another to go in who has had more to do with sheep, and particularly with short-woolled sheep, than he has ever had with beasts. It is well known that some of the first rate breeders of sheep know but little of fat oxen. I have attended to all the objections made against it, but I still retain the opinion which I have long entertained that one of the judges ought to be a butcher. Not a man who is only a carcass butcher, and therefore chiefly looks to scales, but a cutting butcher, whose customers want the very best meat that can be procured. The service of such a man as Mr. Giblett of Bond-street, would be very valuable to the Club. If there had been a butcher possessing his knowledge among the judges at the late show, it would have been quite impossible that such a mistake could have been made as was made in Class 2. It is to be regretted that Mr. Giblett should be a feeder of beasts for the show-yard, he should leave that business to graziers, and then the club might have his assistance as a judge; for although there is at present a prevailing opinion, a mistaken one I think, that the judges should be only graziers and breeders, still I think it must be manifest to every one who has attentively examined the awards made at the late show, that there is need of some better system in the choice of future judges. Graziers, in the choice of their cattle, have taken care to select those which give indications that they will feed quickly, and therefore consume in their feeding, a less quantity of food than the ill-shapen, or unkindly handling ones. In the choice of store beasts, a grazier is not desirous of the assistance of a friendly country butcher; but when the beasts are made fat and ready for the London market, the butcher may be a better judge of the actual value of the beasts than the grazier. I feel assured that no man is better qualified to speak publicly on the merits of fat cattle than Mr. Giblett, and although I feel satisfied that no private consideration would induce him to swerve from expressing his honest opinion, still I should wish him to be in such an independent position as to leave no ground for suspicion on the score of interest.

AN OLD MEMBER OF THE SMITHFIELD CLUB.

SMITHFIELD SHOW.

DEAD WEIGHT OF SOME OF THE PRINCIPAL SHEEP
EXHIBITED.

Mr. Burgess three 20 months old long woolled Sheep, which gained the first premium of ten sovereigns in class VIII., purchased by Mr. Slater, Her Majesty's butcher in Kensington, weighed respectively 19st. 4lb., 16st. 6lb., and 18st. 6lb., at 8lb. to the stone. Mr. Burgess obtained a silver medal as the breeder of the above, and a gold medal as exhibiting the best pen of Sheep in the long woolled classes.

Mr. L. Painter's three 20 and 2 months old long woolled Sheep, which gained the second premium of 5 sovereigns in class VIII., purchased by Mr. Morton, of Great Bell Alley, weighed respectively 14st. 6lb., 13st. 6lb., and 14st. 2lb. His two long woolled Sheep in extra stock weighed respectively 13st. 4lb. and 13st. 1lb.

Mr. Umber's three Sheep under 21 months old, of the long woolled breed, shown in class VIII., purchased by Mr. Mortlock, of the New Cut, Lambeth, weighed respectively 12st., 12st. 6lb., and 13st. 1lb.; and his Sheep in extra stock of the same breed and age weighed 11st. 6lb.

Mr. R. Hickson's three long woolled Sheep under 22 months old, which gained the first premium of 10 sovs. in class IX., as also a silver medal, purchased by Mr. Yardley, of 102, St. John's-street-road, weighed respectively 20st. 6lb., 22st. 5lb., and 19st.

Mr. E. Chapman's three 20 months old Leicester Sheep, shown in class IX., purchased by Mr. Silvester, of Goswell-street, weighed respectively 18st., 17st. 2lb., and 18st. 3lb.

Mr. Rudkin's three Leicester Sheep, under 22 months old, shown in class IX., and purchased by Mr. Miller, of Ropemaker-street, Finsbury, weighed respectively 17st. 3lb., 15st. 7lb., and 16st. 6lb.; and his Sheep of the same breed and age, shown in extra stock, purchased by Mr. Carter, 69, Minories, weighed 16st. 7lb.

The Marquess of Exeter's three long woolled Sheep, 20 months old, and shown in class IX., purchased by Mr. Slater, weighed respectively 20st. 5lb., 18st. 3lb., and 19st.; and his Lordship's two Sheep shown in extra stock, purchased by Mr. Slater, weighed respectively 15st. 2lb. and 17st.

Mr. R. Rowland's three long woolled Sheep, 2 yrs. old, which gained the premium of 10 sovs., and the silver medal in class X., one purchased by Mr. Dobbins, of Drury-lane, weighed 27st. 1lb.; and the other two, purchased by Mr. Dear, of Maidstone, weighed respectively 26st. 2lb., and 24st. 3lb. Mr. Rowland's Sheep, of the same age and breed, shown as extra stock, and purchased by Mr. Dobbins, 25st. 7lb.

Mr. Grantham's 20 months old Wether Downs, which gained the second premium of 5 sovs. in class XI., and two of which were purchased by Mr. Giblett, Her Majesty's butcher, in Bond-street, weighed respectively 13st. 5lb. and 14st. 1lb.

Mr. T. Ellman's three Sheep of the down breed, 20 months old, shown in class XI., and purchased by Mr. Kent, of Upper King-street, Bloomsbury, weighed respectively 15st. 4lb., 14st. 2lb., and 16st. 4lb.; and his Sheep of the same breed and age as above, shown as extra stock, and purchased by Mr. Kent, weighed 14st.

Mr. Grantham's three Down Sheep, 32 months old, which gained the first premium of 10 sovs. in class XII., and purchased by Mr. Giblett, of Bond-street, weighed respectively 16st., 16st. 4lb., and 14st.

Lord King's three short woolled Sheep, which were not classed, purchased by Mr. Giblett, Bond-street, weighed respectively 16st. 7lb., 19st. 3lb., and 19st. 4lb.

Mr. Stimpson's three long woolled Sheep, which were not classed, purchased by Mr. Slater, Her Majesty's butcher, in Kensington, weighed respectively 16st. 2lb., 15st. 6lb., and 14st. 6lb.

ON THE BREEDING OF CATTLE.

TO THE EDITOR OF THE HEREFORD TIMES.

Downton, Dec. 29, 1837.

SIR—It was my intention to submit to your readers, and particularly to the Members of our County Agricultural Society, some observations upon the ill effects of overfeeding young stock, previously to having read the remarks of Mr. Price, of Pool House, upon the same subject, in your paper of the 9th instant. I perfectly agree in opinion with Mr. Price; and perhaps I entertain objections to the practice upon wider grounds than those which he has stated, for I consider all breeds of cattle, of which the offspring have been over-fed, even through a very few generations, to require the same excessive amount of nutriment which their ancestry had been in the habit of receiving, the superfluities of past generations becoming the necessities of life to those which follow.

The late Mr. Jones, of Court Calmore, in Montgomeryshire, stated, at our agricultural meeting in the autumn of 1835, that the young bulls which had latterly been obtained from the most celebrated stocks of Herefordshire, and brought into the county of Montgomery and the adjacent parts of Shropshire, were, with their offspring, incapable of thriving upon the same pastures upon which cattle of the Hereford-breed had, within a very few years, thriven well. Animals of every species, however, certainly acquire their greatest state of perfection when highly fed during the whole period of their growth, and the young stock shown at the meetings of the Agricultural Society has unquestionably possessed very great excellence; but I certainly would not have accepted some of the best of those animals which obtained premiums, upon the condition of being obligated to breed from them.

The breeders of the improved Durham breed of cattle have brought to market, at a very early age, oxen of very great weight and excellence; but the enormous expence which those breeders incur in feeding their young stock is well known; and it is equally well known that all those young animals have come to market deeply insolvent, the sums for which they were sold being greatly less than those expended in feeding them. I, nevertheless, believe that the Durham breeder would be found a very formidable opponent, if he were to be placed wholly without restriction respecting the quantity and the quality of food given; for animals, which have been over-fed from their birth, and whose ancestry have been subjected to the same treatment, acquire a power of eating and digesting a much larger portion of food than others. The North American Indians, who live by the chase, and who are sometimes very sparingly, and at others most abundantly supplied with animal food, possess powers of digestion wholly unknown, even amongst the members of old and affluent corporations in this country. We have the authority of two highly respectable Captains of the British Navy, for the fact of Esquimaux Indians having, in their presence, eaten twelve pounds of solid meat in a day, and having washed it down with a gallon of train oil. The health of these people does not appear to suffer from such excesses, and they are free from dyspepsia, the curse of the brain-worn man of science.

The Durham breed of cattle appear to possess the power of eating and digesting a much larger weight of food than the Hereford. The only instance in which the experiment, I believe, was ever tried, has

been given an account of in Mr. Youatt's Work on Cattle.

Three Hereford and three Durham cattle were put into stalls to be fatted on the 3rd of November. The weight of the Herefords was then thirty-three cwt., and that of the three Durhams thirty-eight cwt., and fourteen pounds.—Between that period and the 30th of March, when all were sold in Smithfield, the Durhams consumed 12,755 pounds weight more of turnips and 1714 more pounds of hay than the Hereford; but the Durhams, notwithstanding the larger size when put to fatten, and the greatly larger quantity of food consumed, sold for only twenty shillings more than the Hereford; and such, I, believe, will ever be the result of similar trials, when one class of animals has been properly fed, and the other overfed, the merits of the breed being equal.

I remain Sir, &c.,

T. A. KNIGHT.

TANKS.—1836.

The fourth anniversary of the Royal Polytechnic Society of Cornwall was attended by several professors and scientific men, who, after an examination of the prize models, expressed their admiration of the practical application by operative miners in this remote portion of the Empire, of those scientific principles on which it was their department at the Universities to lecture. But as the success of the machinery for draining the mines, often deprived both men and cattle of that supply of good water which contributes to health and comfort, it was suggested this might be remedied by tanks similar to nine which had been eminently useful during the late three dry summers on the property of Mr. Davis Gilbert, president of this society, and as they are cheaply and easily constructed, and not liable to decay like wooden vessels; and as rain enough falls on every house in England for the use of its inhabitants, no family could be deficient in good soft water, who made a tank to retain it; and such tanks being paved over, take up no room.

The sizes at East Bourn vary, one of less than seven feet deep and wide, has served two labourers' families for three years, whilst most of the springs in the neighbourhood were dry.

A tank, twelve feet by seven feet, has been found sufficient to supply, with water, a large family and six horses; this was surrounded by only four and a half inch brick work, resting solid against the sides, in consequence of being, like a decanter, smaller at the bottom than higher up, and the dome is constructed on the Egyptian plan, by projecting horizontally each row of materials one third of their length beyond those below, by filling up the back with earth as it proceeded, to balance the weight of this projecting masonry.

At the East Bourn workhouse for fourteen parishes, a tank has been made twenty-three feet deep by eleven wide of the roughest materials, being only flint stones, and though they require more mortar than if they had been regularly shaped, only ninety bushels of lime were allowed, including two coats of plaster, and the workmanship is executed like field walls at 10s. per 100 square feet; the only essential being that no clay be used (which worms in time bore through) and that the lime or Parker's cement be good.

A current of air is said to promote the purity of water in tanks, which is easily effected by the earthen ware or other pipe which conveys the water from the roof being of six or eight inches in diameter, and an opening left for the surplus water to run away; and where the prevailing winds do not blow soot and leaves on the house, the water remains good, even for drinking, without clearing out the rubbish more than once a year; but in some cases filtering by ascension may be found useful, and effected by the water being delivered by the pipe at the bottom of a cask or other vessel from which

it cannot escape till it has risen through the holes in a board covered with pebbles, sand, or powdered charcoal.

Upwards of twenty labourers' gardens have been watered by the rain which formerly injured the public road, and was therefore turned into a sink well, which sink well, enlarged and surrounded by nine inch masonry drawn up by a cast iron curb, was used in planting potatoes, and occasioned good crops in 1835, when sets not watered failed. And should stall-feeding as practised in Scotland, Holland, Germany, &c., be happily extended to Cornwall, and that fattening oxen are kept in *pairs not tied up under shelter*, it will be found that preserving in tanks the water which falls on barns and stalls will amply supply them, whilst it saves this rain washing away the strength of the manure in the open yard. Which liquid manure should be received in tanks secured on the land.

Ponds have been made with equal success, dug four and a half feet only below the surface, what is excavated being added to the sides, and covered about one foot thick, like a road with pebbles and good lime mortar. Such ponds are become general on the dry soil of the South Downs for watering the large flocks of sheep; and had such ponds been found in Romney Marsh, &c., during the three dry seasons preceding Dec. 1834, the sheep would not have died in such numbers as materially raised the price of meat in London, and would have raised it much higher, if the large premiums given for many years by the Agricultural Society of Scotland had not enabled North Britain to supply a great proportion of the sheep as well as oxen consumed in the Metropolis.

The REV. HENRY BERRY.—(*From a correspondent.*)—About two years before his death, and then living at Liverpool, related to me this somewhat extraordinary circumstance. He said that he was requested by his brother, who was then living in Herefordshire, to call on a widow woman, who was occupying a public house of his in Liverpool, to say she would receive a notice to quit the house; at the same time hinted to his brother that the lady was not of a very calm temper, and therefore he must be prepared for the great probability of some abuse. Contrary to expectation he met with no abuse, or anything like it; the lady saying very little but much fixing her eyes upon him. Sometime after this, she, by an accident was much scalded, and neglecting for a length of time the wound it could not be cured, and her friends believing her in a dying state, sent for the clergyman of the parish; he being from home, Mr. Berry was applied to to go and attend the sick bed of one that was thought to be in a dangerous way. He found the person to be this widow woman, and thinking her in a dying state, immediately administered the sacrament to her, who died very soon after she had taken it. On calling at the house the day after, he heard this account related to him. The widow had told her friends some little time before she saw the Rev. H. Berry that she had had a dream that had much affected her, that she thought she was endeavouring to climb up to Heaven by means of a high hill; that she had got nearly to the top but could get no further, that at last there was a thin white hand held out to her which she laid hold of, and then as she was reaching the top she awoke; she said that on seeing the hand of the Rev. H. B., it was the same hand that had been held out to her. From that hand this poor woman received the last help in this world.

NEW REAPING MACHINE.—We have to congratulate our agricultural readers upon the invention of a new reaping machine, likely, from its simplicity and efficacy, to form an important era in the rural labours of the farm. This machine is totally different from those highly-ingenuous implements invented by Mr. Bell, and Mr. Smith of Deanstun; and, in operation, may be said to combine the clipping with the cutting principle. The cutters are attached to a revolving cylindrical drum, from which they are exerted on the

inner side, together with the rake for carrying round the cut corn, from whence they move round towards the exterior of the standing corn; when, after having performed the work allotted to them in each revolution, they are again withdrawn to the inside of the cylinder, for the purpose of facilitating the laying down of the grain in a regular manner, and in being sharpened by a streak appended for that purpose. It also possesses the advantage never hitherto obtained, of being equally applicable to standing as well as lying corn, and can be worked on the most irregular surface, in consequence of a regulating wheel preceding the cutter. It is calculated to cut ten acres a day, with the assistance of a man and horse. This machine is invented by Mr. Robert Baldwin, Annan, Dumfriesshire. It has been examined in course of the last few days in the Agricultural Museum of Messrs. P. Lawson and Son, by Sir Charles Gordon, Secretary to the Highland and Agricultural Society of Scotland; D. Lowe, Esq., Professor of Agriculture in the University; J. D. Forbes, Esq., Professor of Natural Philosophy, University; J. S. Russell, Esq., M.A.; James Slight, Esq., curator of the Highland and Agricultural Society's Models; and several other gentlemen versant in mechanics and agriculture, who all concurred in expressing their high opinion of the simplicity of this invention.—*Correspondent of the Scotsman.*

RURAL POLICE.

The establishment of a rural police throughout the whole country has been suggested by various persons, and has attracted the attention of the Legislature, but it is a subject which requires the most serious investigation and consideration. It must be admitted by those who have had the opportunity of seeing what kind of men are usually selected in the rural districts, to fill the office of constable, that not one in fifty possesses those qualifications which are necessary to constitute an efficient police officer. In many country towns a regular police is now established, and in some large villages the increased information of the people has led them to make a more judicious selection in filling the office of constable. Nevertheless, taking the country as a whole, it must be admitted that property derives more protection from the honesty of the people than from the efficiency of the arrangements for protecting it. That some parts of the country are more lawless than others is perfectly clear, and the congregation of bodies of people naturally tends to multiply danger to persons and property. In towns, and in the neighbourhood of towns, where, in consequence of the thickness of the population, the pursuits and mode of life of individuals is not so well known, additional watchfulness and skill in the police are requisite. In the more thinly inhabited parts of the country, also, where gangs of labourers are collected upon works of magnitude, such as railroads, canals, and the like, additional vigilance is required. The whole county of Chester some years since, was so infested with marauders and ruffians, that it became absolutely necessary to establish a regular police which has been productive of the most beneficial effects. In many parts of the country at the present moment sheep-stealing is very prevalent, and there is an imperative necessity for the adoption of some means of prevention. The appointment of shrewd

and vigilant constables over certain districts, varying in size according to the thickness of the population, or the liability to depredation from any peculiar circumstances, whose sole duty it should be to watch the movements of suspected persons, and to diligently trace out the offenders when any misdeeds were committed, would, we think, go far to correct the present causes of complaint. In the establishment of any additional protection, whether in the character of a permanent police or a night-watch, in the rural districts, it becomes a question of primary importance to inquire, what the character of the depredations committed, and considering all the circumstances, to what class of persons are the offenders likely to belong. If the offences are of a higher order and frequent, it will be generally found that the perpetrators come some distance, although we by no means lay this down as a general rule. Minor and more common offences, such as stealing grain, potatoes, fowls, linen, wood, implements, and even sheep, are most frequently committed by persons of the labouring class, living somewhere upon the spot. We know that where a wholesale system of stealing poultry is carried on, the higgler's cart will travel miles for the purpose, but depredations upon the smaller scale are usually committed by some persons in the neighbourhood. Should there be any dissolute character in the parish or place, whose constant attendance at the beer-shop and habitual idleness have excited surprise as to "how he can live," suspicion naturally lights upon him, but if there be no such person, the first question will in all probability be, "who are the persons out of employment?" It is curious and at the same time instructive to watch the train of ideas. We will venture to affirm, that in cases such as we have described, where there is no party upon whom suspicion would instantly fall, that the enquiry of nine men out of ten would be, "who is out of employment?" Why does the mind run in this direction? because the absence of employment in the case of the English labourer suggests want, perhaps, of common necessities, and compels him to choose between the workhouse and plunder, and an ignorant, ill-judging, ill-advised, or prejudiced mind may be induced to choose the latter alternative. Although we have never been able to bring our minds up to that high pitch of respect for the property of others which would warrant the infliction of seven years transportation upon the starving wretch, who, *after he had tried every legal means to obtain relief*, walked into a shop and took a half-quartern loaf; yet we would not have it thought for an instant, that we should offer any apology for the man who was so misguided as to steal rather than submit to the degradation of the workhouse. Should it, however, so happen, that the individual upon whom a depredation has been committed, is the very individual, or one of them, who having employed the offender during the summer, has turned him adrift for the winter to get his living how he may, should he be an extensive landowner, or even a large tenant farmer, who has refused a half-acre of land to the unfortunate man, so that at least he might have a potatoe to appease the cravings of his wife and his little ones, will not the silent monitor from within suggest

"have I done right in exposing the man who has during the summer assisted in gathering my crops into the garner, to this choice of evils?" We are not insensible to the losses and expences which landlords have to sustain; we are not unacquainted with the toil, the disappointments, the difficulties, the privations, and even the distress which tenant farmers frequently endure, but on the other hand we are not blind to the culpable inattention and ignorance of landlords generally, nor to the deep-rooted prejudices and apathy of the tenantry in a main degree traceable to the landlords themselves, nor are we unaware of the blessings which the labourers derive from the possession of small allotments of land, grants of which we are happy to find daily extending in every part of the country. We freely admit the right of the farmer to discharge his workmen whenever he shall think proper. We do not impugn his motives, but we question his knowledge of his own interest, in curtailing an outlay of labour which upon nine-tenths of the land in England would make an ample return of profit. To grant an allotment imposes no hardship upon the person who grants it, experience having proved that as high a rent can be obtained as for a large farm, and the average losses of rent not greater, whilst it renders the labourer not only happy but independent, thereby saving the parochial funds, and will we feel persuaded, in many cases turn out the most effectual rural police or night-watch that can possibly be established. What unaccountable blindness those landlord must be guilty of who refuse, or neglect to place the labourer in a situation to earn his own support, when in so doing, they would improve the value of their own property, by lightening the poor-rate, by increasing security to their property and that of their tenantry, without cost, and at the same time render the labourer of more value to his employer, by improving his habits both of mind and body. We have recently heard of some cases in which it was proposed to establish a permanent night-watch at a heavy cost to the inhabitants; we trust the parties contemplating such an object will pause and enquire whether the case we have stated above, is applicable to themselves, and if so, further ascertain whether an outlay in labour equivalent to the quota of rate which each would have to pay, might not be a more profitable mode of expending money than converting the labourers into night-watchmen, thereby licensing them to be out at night, and in all probability establishing a school for instruction in poaching, if nothing worse.

TILE DRAINING.—The practice of tile-draining within the course of the last few years has been introduced upon a very extensive scale in the West of Scotland; and during the period in which it has been in operation, it has led to the most beneficial results. It has carried away the surplus-water, which was prejudicial to the soil; and of course fields that were formerly almost sterile, and whose aspects were unpleasant to the eye, and calculated to repress joyous feelings in the breast, now yield large returns for the support of man and beast—while the country has, to a considerable extent, assumed a richer and more lovely appearance, and the comfort of its inhabitants has been greatly promoted. Tile-draining, however, is not confined to the West, it

is also progressively coming into operation in the South; and according as its beneficial effects are becoming known, is regarded with additional importance. The introduction of it into several districts in Dumfriesshire, the Stewartry of Kirkcudbright and Wigtownshire, may not be altogether, necessary—the soil in those quarters being already sufficiently dry for agricultural purposes; nevertheless, in a vast number of localities in these counties it would be of essential service in improving the nature of the soils, and of course of increasing their fruitfulness. The expense incurred by tile-draining would perhaps, in the greater number of instances, be too great to be incurred by the tenants themselves, considering their high rents, the nature of their leases, and the uncertainty which now attaches to the occupancy from political considerations; but in general the outlay is made by the proprietor—a certain per centage in addition to the rent being allowed for the capital expended. As far as our knowledge extends, there are only three tile-works in this district of the South of Scotland—Ryedale, Dalbeattie, and Langholm; the first is in the vicinity of Dumfries, and has been longest established—the second started only during last summer, and has surmounted certain difficulties which overtook it soon after its commencement. They are both in full operation, the articles manufactured at them are of excellent quality; and the patronage they continue to receive is extensive.—*Dumfries Times.*

THE STAFFORD SAFETY COACH.—This invention was described some time back. Since that time a coach built on the principle of the patentee has been running to Nottingham, and has perfectly answered the object of the builders. The great desideratum is the safety of the coach from being overturned, however great the inequality of the surface of the road may be, or in the event of the wheels on one side being lifted from the road upon the pathway, or upon any heap of gravel or rubbish on the road-side, by the horses becoming unmanageable, or by any other occurrence which may propel the carriage out of the ordinary run of the road. The body of the coach being suspended upon springs placed nearly at the top of the coach, and supported upon strong pieces of timber, forming almost an angle, which are at the lower extremities inserted in the axletrees of the front and hind wheels, is kept under all circumstances in a perpendicular position, and the centre of gravity is thrown considerably lower than in coaches built upon the old and common plan. Increased speed may be used without danger by this invention. The carriage is also much lighter; it is calculated that one-horse power is saved in the draught, and the wear and tear is also less. This coach may be used on roads of all constructions, and will not be liable to the danger which arises from coaches travelling upon roads high in the middle or low on the sides, or rounded in the old-fashioned mode of road-making. Most roads are now completely flat, which secures safety to vehicles built on the old plan, but greatly increases the county rates, by causing the necessity of employing additional labour to scrape off the mud and water which gather on them, but which if they were constructed on a curve would be unnecessary. The safety coach proceeded yesterday with a heavy load of passengers from Blackfriars to Hayes. In going down Notting-hill it was driven with great velocity, perhaps at the rate of sixteen miles an hour; nevertheless there was no rocking nor jolting. The body preserved its equilibrium in the roughest parts of the road, and fully answered the purposes for which the patent has been granted.

FRENCH AGRICULTURE.—The sum of 500,000 francs (about 21,000*l.*) has been placed at the disposal of the French Minister of Public Works, for the encouragement of agriculture during the year 1838. There have been also several gentlemen travelling in Scotland, at the expense of the French Society of Agriculture, in order to examine the system of farming in that country.

IMPORTATION OF FOREIGN WOOL INTO LONDON, LIVERPOOL, BRIS- TOL, HULL, GOOLE, AND GLOU- CESTER—1837.

LONDON.		J. L. Lemamé & Co	228
German	16,028	S. Reuter	213
Spanish	10,326	H. Beaven	154
New South Wales	12,571	Thos. Wilson & Co	145
Van Diemen's Land	10,333	Haythorne & Co..	141
Cape of Good Hope	1,786	J. Kohn	136
South American ..	10,371	G. and J. Brown..	116
Italian	802	Baring Brothers..	113
Russian	11,983	Sir J. W. Lubbock	
East India	1,546	and Co	112
Barbary and Turkey	5,546	A. A. Gower, Ne-	
Sundry	365	phews, and Co.	91
		Pauli and Jones ..	74
Total into London	82,236	W. H. Ogden	43
		Overbury and Co..	29
		T. Kemp	28
		Sundry	101
		Order	3,592
			16,628
LIVERPOOL.		SPANISH.	
South American ..	19,659	Sadler and Co ...	3,416
New South Wales	6,993	Darthez, Brothers	2,317
Van Diemen's Land	421	A. A. Gower, Ne-	
East India	4,119	phews	1,040
Barbary and Turkey	2,910	Fred. Huth & Co.	860
Italy	2,468	R. J. Barrow	751
Portugal	2,078	J. L. Lemmè & Co	474
Spanish	413	Sir J. W. Lubbock	
Russian	1,650	and Co	292
Cape of Good Hope	32	Foster Brothers ..	198
Sundry	191	Jaulery and Co ..	195
	40,934	A. de Arroyave and	
		Co	318
		Reid, Irving, & Co	155
		Solarte and Mu-	
		rietta	96
		Mason Brothers ..	95
		Finley Hodgson ..	91
		Buisson & Co	60
		W. Matthiessen &	
		Co	54
		Pinto Urquhart &	
		Co	49
			10,326
BRISTOL.		NEW SOUTH WALES AND	
Russian	172	VAN DIEMEN'S LAND.	
Italian	12	John Gore & Co ..	2,920
	184	Walker Brothers	2,307
		J. Montefiore	1,398
		R. Brooks	1,224
		Donaldson and Co	1,032
		Cooper and Co ..	687
		Warre Brothers ..	600
		J. Masson	568
		J. Hoskings, ...	561
		Cockerell and Co..	515
		Australian Com-	
		pany	493
		Foster and Smith	451
		Enderby Brothers	427
		Buckles and Co ..	415
		A. Willis and Co ..	398
		Marsden & Flower	397
		Ellice, Kinnear, &	
		Co	379
		D. Dunbar and Son	360
		Reid, Irving, & Co.	342
		J. Groves	264
		M. M'Arthur	236
		Majoribanks and Co.	226
		W. Buchanan	219
HULL AND GOOLE.			
German	36,367		
Russian	1,165		
Danish	1,059		
Spanish	272		
Sundry	15		
	38,878		
GLOUCESTER.			
German	364		
Russian	146		
Portugal	73		
Italian	32		
	615		
GERMAN.			
F. Meier	1,454		
W. Matthiessen			
and Co	1,207		
A. F. W. Hoffman	820		
Lovegrove and			
Leathes	809		
Harman and Co ..	808		
Fred. Huth and Co	759		
G. Figdor	750		
C. Jungmichel ..	708		
Reid, Irving and Co	694		
E. Sieveking	608		
H. and J. Wilkins	431		
Fruling and Gos-			
chen	415		
W. Playne and Co.	374		
A. Roth	362		
W. Walter	326		
H. Engle and Co..	279		
Ball, Meyer, & Co.	264		
Wilson Meek & Co	244		

Moen, Dauncey,		R. H. Davis	105
and Co	191	Favell and Co.	91
D. H. Weddeson ..	191	J. O'Leary	91
W. Wilkinson	185	Scott, Bell, and Co.	85
J. Tingcomb	180	Baring Brothers ..	84
A. A. Gower, Ne-		Ryan and Co.	83
phews, and Co..	171	Aspinall and Co..	83
J. Adamson	171	J. P. Bilton	78
W. Orr	169	W. Wright	74
Parbury and Co. ..	162	Sundry	1,744
F. Huth and Co. ..	156	Order	2,022
L. Stevenson	152		
H. Dennistoun	111		22,904
J. Tetley	106		

Total German	53,359
Spanish	13,162
Australian	30,318
Sundry	66,008

Total .. 162,847

Importation of German, Spanish, and Australian wool into the ports of London and Liverpool in 1836 and 1837:—

1836.	1837.
27,838 German wool into London	16,628
56,186 Ditto	Hull 36,367
Total 84,024 bags.	Total 52,995 bags.
	Decrease 31,029
14,614 Spanish	London 10,326
	Decrease 4,288
17,701 Australian	London 22,910
5,082 Ditto	Liverpool 7,394
22,783	30,304
	Increase 7,521

RECEIPT FOR PRESERVING MILK.—The following method for preserving milk at sea during the longest voyage, and in the warmest climate, equally sweet as when it was first drawn from the cow, ought to be more generally known:—Provide a quantity of pint or quart bottles, they must be perfectly sweet and clean, and likewise very dry before they are made use of. Instead of drawing the milk from the cow into the pail as usual, it is to be milked into the bottles; as soon as any of them are filled sufficiently, they should immediately be well corked with the best corks, in order to keep out the external air, and fastened tight with pack thread or wire, as the corks in bottles, which contain cider generally are. Then on the bottom of an iron or copper boiler, spread a little straw, on that lay a row of bottles filled with milk, with some straw between each row, to prevent them from breaking, and so on alternately, until the boiler has got a sufficient quantity; then fill it up with cold water. Heat the water gradually, until it begins to boil, and as soon as that is perceivable, draw the fire. The bottles must remain undisturbed in the boiler, until they are quite cold, then take them out and afterwards pack them in hamper, either with straw or saw dust, and stow them in the coldest part of the ship. Several years since the writer tasted some milk on board a Swedish ship in the harbour of Liverpool, which had been carried twice to the West Indies and back to Sweden. The Captain said it was milked into the bottles at Copenhagen upwards of eighteen months previous to that time; it was as sweet or more so, we imagine, than when first milked from the cow. The perpetual motion of the sea, in time improves milk equally as much as it does Madeira wine.

ON THE ADVANTAGES OF PERMANENT PASTURE OVER ARABLE HUSBANDRY ON THE INFERIOR SOILS OF SCOTLAND.

FROM THE QUARTERLY JOURNAL OF AGRICULTURE.

The superiority of Scottish agriculture, in comparison with that of our southern neighbour, is acknowledged by every body. Such superiority could scarcely be expected to exist, independent of the disadvantages of soil and climate, without some counteracting advantages, and these are neither few nor slight. Not the least prominent, and the only one I shall notice, is the small comparative expense all kind of farm work is done for in Scotland. If the Scottish farmer had to keep the same number of servants, and in the same expensive style as the English farmer, joined with other expensive habits and customs which it is not easy to get rid of, thousands of acres of poor land in Scotland, at present uncultivated, could not bear the expense of cultivation, and would have to be turned to pasture. But, notwithstanding the prudent habits and economical mode of cultivating land in Scotland, which has extended cultivation on inferior land to such an extent, and which in England could never be thought of, it is still, I think, very doubtful that cultivation on these soils is the most profitable way of farming the land; and it is well worthy of inquiry whether, under proper management, a permanent sward of grass could not be formed on such land more profitably to the occupier than farming could ever be expected to be on such soils, and, in consequence, more beneficial both to the proprietor and the country.

The kind of land I allude to is what is termed by farmers weak clays or soft lands, always on a strong clay retentive bottom, and as wet as land can well be from rain or surface water. I believe this in general is the character of the land in the west of Scotland, and, to a person a judge of land, is easily distinguished from rich clays.

But as land varies so much in its quality, the best way of conveying an idea on the subject is to mention the rent such land would bring in the market. What I maintain, therefore, is, that farms which bring a rent of from 15s. to 30s. per Scots acre, is, under proper management, capable of being converted to good permanent grass.

I am aware it is a common opinion, that this kind of land, if thrown out of cultivation, would become a barren moor; that grass, after it is two or three years old, is utterly worthless, and, unless again brought under the plough and again sown down with fresh grass seeds, such land would become totally valueless both to the proprietor and the community. This opinion is very current. It is brought forward by newspaper editors; even Members of Parliament in the House of Commons have insisted upon it.

It is no doubt true that grass, after the first year on this kind of land, is of the worst description, and being generally in a very wet state, and often overstocked with cattle, is so poached and destroyed that it cannot be expected to improve. The only grass seeds sown are clover and ryegrass. The clover is all gone after the first year; the ryegrass, although of the best quality on such land and in such a state, is seldom permanent. The pasture in the third season is indeed miserable, and there is no wonder at the common opinion,

that permanent grass of any value is incapable of being formed on poor land.

To prevent any misconception, I may, however, state, that abundance of pasture in a field will generally bear an exact proportion to the quality of the soil, however carefully the field may have been laid down to grass. No circumstance so strongly points out the value of land as the productiveness of its pasture. I maintain, however, if the field has been put down to grass in a careful manner, and arrived at some age, so that the roots of the indigenous grasses may have had time to have firmly rooted and established themselves in the ground, grass of a superior kind may be expected on land of inferior quality. And even although the pasture was of the most ordinary kind, as it is attended with comparatively no expense in the present state of markets, it will be found more profitable than arable husbandry.

I believe there are many districts in Scotland where arable and convertible husbandry is carried on. The land is of so poor a quality, the rent is not more than 10s. per Scots acre, that some individuals may doubt whether such lands will yield proportionally good permanent pasture. But on the contrary, the most of it will be a clay soil, so tough, hard, and steril, as to resist every attempt to form a good permanent sward upon it.

In one of the late Numbers of this Journal, there is a valuable paper on the Improvement of Natural Pasture upon poor land. I have not the Journal by me; but I think I remember it sufficiently to quote a remark or two. The writer states, that on very old grass, perhaps from time immemorial, the turf has a strength and multiplicity of roots altogether different from young pasture, and that such old turf supplies a far more abundant herbage. But on poor tough clay the grass may get mossed and otherwise degenerate, and is capable of being greatly improved by being ploughed up; but when such land is ploughed up and cropped several years in succession, the roots of the indigenous grasses are completely destroyed, and the land may remain in grass nearly half a century before it is again covered with pasture of the same quality. The writer recommends ploughing the land in the end of autumn, and in spring give the land a turn or two to break down the winter furrow or sward, and by the end of summer to sow fresh grass seeds. In this way the roots of the indigenous grasses are not rotted away as if the land had been kept in crop two or three years. The natural grasses from the old roots speedily grow up again with renewed vigour, and the pasture left in a greatly improved state. This is a new mode of improving natural pasture, which on poor land may be beneficial. But I confess I have had but little opportunity of being acquainted with arable land let under a rent of 20s. per Scots acre; and land of this kind, if well drained, will be found to carry wonderfully good pasture without any necessity for ploughing it up in this way.

In those districts of the country where the land is chiefly a soft clay soil, I would just ask any person to examine the grass in the fields which have been for a considerable time in pasture.

The rage for arable farming, stimulated by the high price corn has always brought in the market, until within these last few years, has made grass of any age very rare. But still there may be one or two such parks. At any rate, the fields around gentlemen's houses are generally in grass. Let him examine these parks, and inquire the rents they let at. I am mistaken if he does not find the

rent of these parks are just double the rent of the farms around them. It may be said, the land is better; but I think it will be found there is little difference in this respect. It may also be said, the cause is the high price of grass at the particular time referred to; but if you inquire the average rent of grass in districts where the land is of the best quality, and compare it with the average rent of the farms in the neighbourhood, you will find them very much alike; and this, likewise, is not the cause. The real cause, I suspect, is just that pasture on inferior land is produced in a proportionally greater abundance than any other crop, and is, in consequence, more profitable. And it turns out that land which was put down to pasture, chiefly with a view to ornament, as it surrounded the house of the proprietor, becomes the most valuable field upon his estate. Let the landed proprietor mark this, and inquire what effect it would have upon his rent-roll, if more of his estate were covered with pasture of as good quality; and by minutely examining the quality of the soil, and comparing it with the soil of his other farms, calculate to what extent upon his estate grass of equal value may be expected.

Let also any person look to the grass at the sides of the hedges, and other corners of the field where the plough cannot reach, and there observe the closeness and verdure of grass in its natural state over the modern grass field of two or three years of age, on land of the same kind.

I shall now notice what may be considered the best mode of laying down land to permanent pasture, and which, if properly attended to, grass of the most productive kind may be expected.

But I shall first notice an agricultural improvement which has been introduced within these last few years, and, from trial, has been found capable of ameliorating the soft wet-bottomed soils to a very great extent. I have heard it said, the individual who first cultivated turnip as a farm crop, ought to be considered as a great public benefactor. I am rather inclined to think, he who first introduced furrow-draining, or at least he who has been most active in bringing its merits before the public, has strong rival claims with his turnip friend. There is no necessity here to go into any lengthened account of this kind of draining. Its great distinction is to draw off the rain-water from close-bottomed land. On land with a retentive sub-soil, it cannot get away. In winter there is no drought to dry the ground. It is therefore continually in such a wet state, that it is what farmers term soured, and the good effects of previous cultivation is in a great measure destroyed. But experience has proved, that a small narrow drain, generally one in every ridge, filled with small stones, and then carefully filled up with the best top soil, completely pervious to water, has the effect of keeping the land dry to a wonderful extent. Let the farmer, then, who wishes to have the best grass his land is capable of producing, take advantage of this method of draining his land. It is, in a great degree, from the wetness of the land that good natural pasture is so difficult to form. Although on old grass it is often surprising to see such abundance of pasture on land so wet that you would think it to be half covered with rushes; but in most cases, the grass becomes mossed, and what farmers term soured; and there can be no doubt, if this land was well drained, the grass would be worth three times its present value, and even this bad grass lets at as high a rent as it would do as a farm.

Indeed it is only since the introduction of this improved system of draining, that land of this kind could be laid down to grass with a view to be permanent, with any probability of success. The expense, I think, is about 6*l.* per acre; but this cannot, with any fairness, be charged against laying down land to pasture, as it is extensively pursued, and found to pay on cultivated land; and there can be no doubt it will pay as well on grass land.

It would be a great improvement to sow the grass seeds without any crop. All the nourishment which goes to mature a heavy crop of grain will then go to the benefit of the seedling grasses, which must have a very great effect on their strength and thickness. An immense greater number of grass plants will be got to take root, than when they are half choked by a heavy crop of corn. This is a great advantage, and in sowing seeds without a crop, more than double the quantity should be used. There will be one objection to this mode of sowing seeds. The loss of a crop may be thought too great a sacrifice. Nothing valuable can be got without some corresponding sacrifice; but if the land is in good order, such an expense may be avoided. After a summer fallow, a crop of corn could be taken, but no grass seeds sown with it, and in the following year grass seeds could be sown without any corn crop. The only additional expense that can be calculated upon by this plan is the loss of a year's rent; on the kind of land we are considering, not a very large item.

But not more than half a year's rent can fairly be charged against it, as by August it may be expected the pasture will be very good and fit for sheep stock. It is almost unnecessary to mention, for the first two years, cattle should be carefully excluded; the land being so soft and tender, they would poach and damage it. The land should be pastured by sheep alone, and even they, I may mention, should be excluded the first year on wet days, although to practical people this is well known. The surface of the ground, previous to sowing grass seeds, should be made very fine and carefully rolled. The seeds are sown on the land after it is rolled, and are harrowed in by light grass-seed harrows. Considerable attention is required for this part of the process; the seeds of the natural grasses are very fine, and if the land is in the least degree rough, they will be, to a great extent, buried. Sowing grass seeds without a crop is not common in this country; but in England it has often been done with the most complete success.

We will now consider the kinds of grass seeds to be sown; ryegrass and clover are the grasses commonly sown. When the field is only intended to be a year or two in pasture, these seeds are perhaps all that may be necessary; but when the field is to remain for a number of years in pasture, a worse collection of seeds could not be selected. Red clover exists only the first year; white clover is an excellent plant, and so permanent it will remain for any length of time, and will grow on very inferior land, but on such land I do not think it very profitable. There are other grasses that will yield a more abundant pasture, and in consequence to be preferred. Ryegrass is by no means calculated to form a thick turf, and being the principal grass sown, no wonder at the complaints of the inferiority of pasture after the second year.

The grasses that are most to be recommended are those that are indigenous to the soil; these

grasses are now sold by all the principal seedsmen. Very great attention has been paid to this subject within these last few years, and, like all new improvements, too high expectations were formed, and disappointment in many cases would follow. It is only on soils of an inferior quality, and when intended to remain a long while in grass, that it is worth while sowing natural grasses; on land which is intended to remain only a year or two in grass, it is of no use; and on land of the best kind, although intended to remain in pasture, it is, I think, of very little consequence what grasses are sown. Ryegrass on good land tillers and thickens freely. White clover on such land becomes splendid pasture for any length of time. I do not see how it is possible to desire better grass than is every day seen by sowing ryegrass and clover. It is only on land of an inferior kind, when intended to remain in grass, that the cultivation of the natural grasses is really an improvement. When the natural grasses are sown, it is a common error to expect the grass will be as good as if it were an old pasture field; but the pasture must be of some age before the roots become firmly rooted in the ground, and it will take more time on poor land than on that of good quality. Among such a variety of grasses which grow naturally on different soils, it becomes an object of some importance to select the kinds suited to the soil intended to be sown, and to sow such a quantity of the seeds of the different grasses as it is thought will make the thickest turf. I believe Mr. Lawson of Edinburgh, seedsmen to the Highland and Agricultural Society, has prepared a table shewing what quantity of seed of the different grasses it is necessary to sow to produce the same number of plants. This table must be of great use, as the seeds of some of the natural grasses are so small that one pound of one seed will produce as many plants as four pounds of another kind. Mr. Lawson has also published the grasses indigenous to different soils, and the quantity of seed of each grass proper to sow; and the total quantity of seeds recommended is very properly a very liberal allowance.

Without disregarding the grasses recommended by seedsmen, let the farmer himself examine the grasses indigenous to the soil, that are found growing naturally by the sides of the hedges, and other patches out of the reach of the plough. In forming an opinion upon this subject, I do not know a safer ground to go upon than what nature has pointed out, and while he disregards those grasses that may be considered as weeds, let him carefully notice all the others as well as those that seem the most valuable and occupy most room, and the table of Mr. Lawson will be found useful in forming an opinion of the quantity of the different seeds to sow, to have a natural turf of the same kind. It is very likely the grasses he finds most common, and, in consequence, more recommendable, are first a valuable grass, Scots name dogs'-tail, several varieties of the Fescue, cow-grass, a natural vetch, a kind of red clover common on poor land in Scotland, and a number of others. Dogs'-tail is more universal, common to different soils than any other grass. It seems to be the principal grass in many fields, let at a rent of little more than 10s. up to 4l. sterling per Scots acre, on land of medium quality. It is impossible to see finer grass than is usually seen where this grass predominates, and yet it has never held a prominent place in the lists of grasses recommended by seedsmen. The most valuable

grass in Britain is said to be the rough cocks'-foot. It seems to grow chiefly on land of a better quality than what we have under consideration. Let the farmer, then, sow, chiefly those grasses which he finds growing naturally, and at the same time luxuriantly, on the same kind of land which he intends to convert to pasture, joined with one or two other varieties of the best natural grasses, with a little of the best rye-grass; and if the land is well drained, in good order, and the seeds sown without any corn crop, there will be little doubt of his success in having good pasture.

Overstocking is a very common error, by which mischief is done to a shameful extent. Young grass can never improve and become thick and close in the sward, when it is continually cropped by the cattle to the roots. It is in a great measure owing to this so much grass is spoiled by moss. Let the field always be kept rough, and this should be the case in winter too, and allow the grass to tiller out and mix together; it is also more profitable, the stock improving so much better. In order to thicken the grass as much as possible, besides under stocking, in October, when the grass is two or three years of age, it ought to get a good top dressing. At this time of the year the land is often pretty dry, the carts will not break the land, and the winter rains will wash the compost among the roots of the grass. This, I think, is all that art can do; it can now be left to improve by age, and the improvement which is effected by age is, I think, more marked on land of an inferior kind than good land. In fact, he who employs himself in converting a poor soil to permanent pasture, ought to consider himself doing something patriotic, by which posterity will be benefitted.

In some districts in England during the war, corn selling at a very high price (in an evil hour) a great deal of grass land was induced to be ploughed up of an inferior quality. It had been in grass from time immemorial, when prices fell, cultivation was not found to pay, and it was again turned to pasture. It is said the inferiority of the new over the old grass is extreme, and the loss occasioned by ploughing it up must be very great. A kind of mania existed all over the country, for conducting agricultural operations in a style which on poor land could never pay. Those country gentlemen who are termed keen farmers, were naturally the most deeply infected, and although they succeeded in procuring bulky crops, it does not follow their farming was profitable, as their farms were generally cultivated by an outlay of capital and expense which renders profit out of the question.

Turning a great deal of land to pasture, may be objected to, as it would deprive of employment a great many country labourers, the best behaved part of the population. But it should be borne in mind, where agriculture is well understood, arable farming is found very profitable, and will always be preferred to grazing on land of medium quality. Such land is farmed at less expense than poor land. The farm requires less dung, a far greater proportion of dung being made on the farm. The cultivation of green crops and stall feeding cattle is carried on to a great extent. The grain is always of the best quality for the season, and brings the highest price in the market. But it is very different on a farm of poor clay soil, no green crop can be cultivated, and, in consequence, little good dung made, and the farmer is put to great expense every year in purchasing dung. The

climate is generally wet and cold. The corn is always of bad quality.

It is absolutely necessary such land be occasionally rested in pasture. Land of so soft and weak a texture could not bear constant cropping. Now, we have seen new grass on such land after the first year is anything but profitable. With these disadvantages, the farming of these soft clay soils is the worst business a man connects himself with. No wonder the tenantry of such land, while they are the most industrious, and live in the plainest manner, are at the same time the poorest in the country, and that proprietors who farm their own farms, although in the most careful manner, behold with astonishment, not unmixed with envy, the comfort and opulence of the tenantry in rich districts of the country.

There is one objection against putting down a great deal of land to grass, which may be said to render any extensive conversion of land to grass as quite impracticable, and this is the necessity in this country, with such long and severe winters, of having a sufficient supply of fodder to winter the cattle.

The necessity that must always exist for winter meat renders it no doubt necessary that a considerable quantity of land must always be cultivated, but, I think, a much less quantity will do than at first sight appears necessary. Say a farm consists of 150 Scotch acres, let 100 remain permanently in grass, and the other 50 acres cropped in a rotation of oats, summer fallow, wheat, and barley, hay, grass, grass. This will give about nine acres to each division, and including the hay, there will be 28 acres yielding winter fodder. In the fallow division, three or four acres potatoes or turnips may be cultivated. I would prefer potatoes planted with the spade instead of smashing this kind of land with horses, when it is most likely in a wet state at the potato planting season. If the straw and hay is cut into chaff mixed with a few of the potatoes or turnips, seasoned with a little salt, it is surprising how many cattle may be kept in good condition with this quantity of fodder, quite as many as the tenant will require to winter on a farm of 150 acres, particularly if the farm be not overstocked, and the cattle have plenty of rough pasture at the end of autumn.

The practice of keeping more cattle in winter than you have sufficient straw and turnip for, is no doubt wretched management. The great object of the arable farmer is to make as much dung as he can of the best quality, and every farmer knows this is not done by keeping a great number of cattle in poor condition. But on a farm such as we are considering, (although dung collecting must be attended to) the great object of the farmer is to winter in good condition all the milch cows and other stock, it will be necessary to keep when there is such a large proportion of the farm in grass. It is the moorland and hill or grazing farmer who are best acquainted with bringing a great number of cattle through the winter in good condition on a small allowance of fodder.

The pasture of such a farm could not be stocked to greater advantage than with milch cows. This important branch of husbandry will be found very profitable, and is, in general, well understood by the farmer in those parts of the country where this plan of farming is recommended. It is a useful way of employing the females of his family, and the offals, in the shape of the profits of the pig-gery, will go a great length in his household

economy. The produce of twenty or thirty cows will bring a good sum.

A few sheep too, may be kept with great advantage. There will be no turnips to winter the lambs or hogs, but they could be sold. There is always a standing demand for bred hogs to put on turnips. Leicester sheep, if the ewes are well wintered and not lamb too early, would thrive amazingly on this kind of land; but it would be a great error to keep too many sheep eating the grass bare in winter, which should always be avoided. It might answer well enough to winter the ewes in a fold, and to feed them on hay and turnips, and to turn them out to the grass a part of every day for exercise. No sheep thrive so well as the solitary ewe of the cottager, kept as a companion to his cow, and it is kept the half of its time in a close byre.

But the conversion of two-thirds of a farm to pasture, is attended with another advantage I have not yet noticed. The entry to the farm with so large a proportion in grass will be Whitsunday, and it will be found a farm of 150 acres under this management, will just require one-half the capital necessary to enter the same farm at Martinmas in the state a farm of this kind is generally in when let to a new tenant.

An arable farm at entry is generally in disorder, and a great number of men and horses are required the first year, which is attended with great expense; a large sum is also required to purchase manure.

But on the other farm, from the small proportion in tillage, the expense will be very trifling. A few young stirks are soon reared to supply any deficiency. 200*l.* is amply sufficient to supply the grazing department, nothing can be more clear than that 100*l.* will stock the one farm as well as 800*l.* would do the other, or that 500*l.* will stock the one as well as 1,000*l.* would stock the other. It is certainly a great consideration in this plan of farming these soft clays, that independently of being more profitable, it will only require half the capital.

It may be said, if a great deal of land was turned to grass, all the productions of grass husbandry, —dairy produce, beef, and mutton,—would fall in price occasioned by the large supply; but, however extensively this plan of farming may be pursued, in certain districts of the country, the quantity of land turned to pasture, compared with the country generally, must be very trifling, and so far from it occasioning any over supply, it will be found not one single pound less, either of butter or cheese, would be exported to this country by our Dutch neighbours.

The question that inferior arable land worth about twenty shillings per acre, is capable of being converted to good permanent pasture, is a very important one, and to those who take an interest in agricultural subjects is extremely interesting. If individuals who are good judges of land were to examine the soil of old grass fields bearing good pasture in districts of the country where the land is generally of inferior quality, and communicate their observations to other individuals who may be similarly employed, or who take an interest in the subject, much useful information might be collected.

Of late years, corn has been selling at very low prices, while the other productions of the farm have been selling at good prices, which makes the importance of the subject still more urgent and well deserving of attention.

J. B.

METHODS FOR PREPARING MANURE.

FROM AN IMPROVED SYSTEM OF AGRICULTURE AND GRAZING BY AN EXPERIENCED FARMER.

The best methods for preparing good, strong, and cheap manure, and the most economical mode of applying it when prepared, in the growth of full crops of turnips and of corn, being the first steps in farming that ought to be attended to, the author is induced to recommend that much of the poorest land on a farm be thrown out of tillage; which will cause the parts that are in tillage to produce full crops. If the poorest lands will neither grow sainfoin or lucerne, they will serve for pasture or sheep walks if proper seeds are sown, and from thence the sheep may be folded on those parts of the farm which are in tillage; which almost insures a good crop of corn so far as the fold manure goes. On some farms, the poorest lands are too wet for sheep, but such may be rendered healthy and made fit for them by proper draining, chalking, and well ditching all round the land. There are men in all parishes to do the needful labour, which would ease the poor rates; the thing most wanted in the present times. Another good plan to help to keep up the heart of the land to bear full crops is, when the farm-yard is free from dung, let it be covered all over with the best mould that can be got: it might often be procured from the outside of the fields, by causing the plough to go nearer the hedges, and thereby gain a great quantity of land. The author proposes to cover the yard about two feet thick, the mould, after lying there, and being well foddered upon by cattle, will become a good, strong, and cheap manure. He recommends also, a great quantity of young kind, growing pigs, to be kept in the farm-yards. Even if the growth of them only pay for their food, there will be great profit from the extra strength of the yard dung, and the mould underneath. If a great quantity of pigs are kept there, it will cause the manure to be so strong in its nature, that the turnips will grow so rapidly from it, as to preclude the danger of the fly destroying the crop, if the seed be good.

When the mould and dung are cast together in the yard, before being carted out for turnips, as salt is so cheap, it is as well to mix a little with it; if only one sack to the whole yard, it will be of great service, and reward the farmer much. If salt be sown on the land in proper quantities it is of great benefit, but if sown too thick it will destroy every plant that grows, and prevent further vegetation. When manure is made so strong, a much less quantity per acre will make the turnips very good; then feeding them off the land with sheep, with a full allowance of hay, will be of the greatest benefit to the future crops of corn, and cause an amazing increase of straw. So that manure made in this manner, will insure a good crop of turnips, and be profitable to the farmer in other ways; for it will not only enable him to keep more sheep, but his land, by these methods, will produce so much more straw, that his manure heaps will be double the size they were the preceding year, and his corn will not only be better in quality, but greater in quantity.

As the author has so earnestly recommended a greater quantity of young growing pigs to be kept in the farm-yard to assist in making manure, he also from experience, recommends that they have separate lodgings for the night, not more than ten in a place together; for if pigs are allowed to herd together, and they will if possible, those that are in the middle

of the lot one night will be so much heated that the next night that will be at the outside; so that by violent heats and colds their healths will be so much impaired that they will not be found to thrive, which of course cannot be profitable to the owner. Many farmers keep only ten or twelve pigs when they should keep seventy or eighty in their yards, to increase and strengthen the manure; for turnips are the mother of corn; but are very difficult to raise, except good strong manure be applied to the land, to make them grow quicker than their enemies can devour them. So that much depends on the strength of the manure to raise the crop, and when saved it will be of a more fattening nature, in proportion to the strength of the manure. The author has seen in many farm-yards where very little stock has been kept on the straw, that the dung has been so light and weak as to be scarcely worth the expense of carting it on the land: the loss consequently, on the present and future crops, is incalculable.

As clover roots are a good manure of themselves, farmers should not be sparing of the seed; they generally sow it too sparingly. The author never saw a bad crop of corn after a full thick plant of clover or trefoil, except when eaten by the slugs, owing principally to its not being well and closely fed down with sheep, before being ploughed and sown with wheat. If clover and trefoil be as thick as a mat on the ground, crops of corn are sure to be the better for it afterwards. Most farmers have an opportunity of purchasing manure, and as it is the author's intention to point out the most profitable plans, he recommends to every stock farmer who occupies from two to three hundred acres of land, to purchase good strong manure enough to well dress over about five acres for Swede turnips.

What he means is, for the farmer to have an extra five acres of good Swede turnips as a reserve for stock of all kinds, when most in need, which is in the month of March, that being the most precarious month in the year for all kinds of stock. The extra five acres will well support them until the grass begins to grow, so as to pay well for the manure purchased; as five acres of Swede turnips at 6d. per bushel, will amount to 160*l.*, if five bushels per square rood. Five extra acres of good Swede turnips, for the month of March, will not only be found very profitable to the farmer to enable him to well support an extra quantity of sheep and other stock, but the said five acres of land will produce extra good crops of corn for years after. Simple as this plan may appear to many, yet it may be relied upon to benefit the farmer to a great amount, on a large lease of his farm.

The author thinks it a good plan when the greens of turnips are growing so fast as to injure the root, as they are required to last the sheep until the middle of April, to plough them in, which will preserve the turnip, and make the land kinder for barley.

The way in which many farmers "*plough and sow themselves out of doors*" is, when they plough and sow too much land; causing light crops of corn, by not keeping up the heart of the land by dressing it well for turnips. The author has seen one hundred acres of middling land which were sown with turnips, after being lightly dressed over with weak manure, produce only half a fair crop, and barley after in the same proportion. Now, it appears to the author to be evident, that had the whole of the manure been made stronger, by keeping more stock in the farm-yard from whence it was taken, and had it been put on only fifty acres for turnips, that it would have produced more sheep feed than the hundred acres lightly manured, and barley also in the same pro-

portion afterwards. It is therefore, clear, that cultivating the extra fifty acres indifferently is not labour lost, at 2*l.* 10*s.* per acre, but the loss of the hay or sheep feed which it might have produced also. If we reckon the hay and sheep feed at only 2*l.* per acre, and add the cost of turnip seed, of sixty sacks of seed barley, and the expense of hoeing fifty extra acres of turnips—we shall find that the labour and expense thrown away in thus growing a less quantity of turnips and corn on a hundred acres than might have been grown upon fifty acres under a better system of management, will occasion a loss to the farmer of about 280*l.* This is the sense in which he is said to “*sow himself out of doors.*”

It is no wonder that so many farmers are ruined by growing light crops, if we consider the high rents, tithes, poor rates, highway rates, labour, and blacksmith's and wheelers' bills; all of which must be paid from the light crops; and as the land is now subject to so many various and heavy expenses it is proper to keep up the heart of it to grow full crops to meet them; and the increase of manure will be in proportion to the goodness of the crops, and cause the land to produce straw enough to manure itself. When the farm-yard is well stocked, as before stated, it will enable the land to meet the expenses it is subject to, with pleasure and profit to the cultivator; from this mode of treatment the dung cart is called the best farmer.

When the farm is deficient in cattle and pigs, it not only causes a scarcity of bacon but of corn; although the occupier of the land stands in need of the most profitable plan to meet the expenses it is subject to. The difference in the strength of manure is as great as between strong beer and small; a very little strong beer strengthens a hard working and fatigued man, in the same manner as strong manure affects the land.

Farmers should bear in mind to make use of all their manure to increase sheep feed, previous to the land being sown with corn. When land is dressed for turnips and young seeds for sheep feed, the additional dressing left by the sheep, not only causes the land to be doubly dressed, but it might be relied upon, that the succeeding wheat crop will be less subject to blight than when the land is dunged expressly for it.

ON THE NEW VARIETIES OF WHEAT.

SIR,—Having observed in a newspaper not long since, an article on the comparison of the Egyptian and Dantzic wheats, wherein it is stated, as an extract from the *Encyclopædia of Plants*, that the Egyptian degenerates in our climate, and becomes single spike; this is decidedly erroneous, having ten years experience of it, both as an object of curiosity with other numerous sorts, and likewise an article of business. I never observed the least degeneracy; I think not by any means calculated for our variable and moist climate, in consequence of its straw not being sufficiently strong for its large branching head, which, in unfavourable seasons, exposes it to mildew and disease, which, independently of, it is not more productive, comparing soil and season, than the blue or grey rivits, which are superior to it in sample.

As there has been a great deal of what is vulgarly called humbug about the new varieties of wheats recently brought into notice, probably the success of the recent cow-cabbage speculation, has excited the cupidity of certain wheat growers, and crops have

been asserted to have grown bordering upon the marvellous. There is undoubtedly, merit in some of the sorts recently brought into notice, and the more so in consequence of their cleanliness from that scourge of all the small varieties, smut balls, which are unquestionably induced by our moist and variable climate.

The Navarre introduced in 1833, is a proof of this, being much cleaner from smut than the old varieties in cultivation; the Cape or African, having been longer in cultivation, becomes more subject to disease every season it is grown.

The Russell white, though by no means a new variety, is decidedly an improvement, in consequence of its straw being moderately short, with a compact head, but it is too delicate in its habit for any but the most favourable soils. The Whittington white is apparently too long and coarse for wet seasons when mildews are so liable to affect these kinds of wheat. I have always possessed a strong idea that the sorts in general cultivation are too long in the straw where the consequence of which is, in wet warm seasons, the crops are heavy upon the ground, a greater accumulation and retention of heat and moisture, and a mildew is the consequence. Agreeable to this theory, which is borne out by subsequent experience, I selected from the Russell white in 1833, a most singular white variety, which combined with an extraordinary stiff straw, a singular clustered ear, forming a cluster at the top, of densely set grains making a perfect five set constituting 110 entire grains in the one ear, more resembling an artificial carved in ivory, than a natural product. I have been much gratified since in experiencing its permanency, having the most beautiful appearance in the field, growing about 4 feet 6 inches high, with a very stiff straw, and the most violent winds and rains cannot lodge or lay it. This year I have sown 30 acres from the said one ear, a proof of the extraordinary fecundity of the staff of life.

I have, in addition to small collection of the British wheats, the 56 species and varieties grown in the Botanic Garden, Chelsea, a few years since, by a Spanish gentleman, (La Gasca), who with great industry collected them from the granaries of Russia, the Baltic, and Mediterranean, the Brazils, China, and India. I have reduced them to 24 lists, rejecting the remainder as unworthy of culture. There appears very little specific difference in the small kinds from those grown in England, except their different periods of ripening, which I attribute to their not yet having become naturalized to our climate; but in the awn or rivit, there are some interesting varieties, which will probably be an improvement in that class of wheat, but of course they require further experience before I shall be enabled to ascertain their merits.—I am, &c.,

JOHN RIVERS.

Saunbridge worth, Herts, Dec. 20, 1837.

A new thrashing machine, manufactured by Mr. L. Beare, of Meeth, near Hatherleigh, has been lately put to work on a farm in the parish of Landkey, near Barnstaple, when an acre of barley was taken in, and thrashed in eighteen minutes, yielding forty bushels of grain. Many respectable farmers were present, and expressed themselves highly pleased and satisfied with the performance of this surprising machine, as the barley was perfectly fit for seed or malting, every corn being free from damage.

VEGETABLE ECONOMY—ROTATION ON THE LAW OF PRINCIPAL AND AGENT.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I was induced from the following circumstances to propose to the Agricultural Society at its last annual meeting a premium of 20*l.* to be given agreeably to the particulars stated in your report of the proceedings. At a farm in the vicinity of Bristol I examined the nutrient matter of some soil prepared for seed. After the produce had been removed, I again examined the soil, and found the difference bore a very small proportion to the quantity of nutrient principle in the vegetable produce—a result which greatly favours the supposition that vegetables derive their principal support from the atmosphere. It appears probable that the nutrient principle in the soil is limited to that portion of the vegetable which is below the surface; for as soon as it is so far grown as to be exposed to the atmosphere, it is provided with an apparatus, as leaves, &c., to enable portions of the atmosphere, as well as materials held in solution, to be absorbed by it. To effect this, under the cuticular membrane which invests the leaves, flowers, and stem or branches, are observed by a powerful microscope oval orifices, termed by Decandolle *stomata*, acting in the vegetable economy as the glandular structure in the animal. In aquatic plants these are not observed, except in that portion which may be exposed to the atmosphere. Leaves may thus be considered with respect to the vegetable kingdom, as stomachs to the animal. By their organic power they prepare the sap, which is determined between the bark and albumen to the extremities of the roots, where the tendrils and in *spongioles*, which consist of a series of fine tubes covered with a membrane; and on the same principle (as Dutrochet has shewn by an experiment, which was introduced at the meeting) the sap is distributed through the interior of the wood. It has been long known to agriculturists that considerable advantage is obtained by a rotation of crops; but it was supposed that the roots of wheat would abstract that portion of nutrient matter which came in contact with the tendrils, and that the roots of another plant, taking a different direction, would in such situations also find support. Thus plants have been considered as exhausting the soil only in those parts which surround the extremities of the roots. The celebrated Decandolle, however, had long suspected noxious excretions at the roots of plants, and this supposition has been verified by Macaire and Marcet of Geneva. One plant gave out a little narcotic principle, which was found injurious to similar plants, though in others it produced a luxuriant vegetation. Thus an old apple orchard will not answer for the culture of similar trees, while many other fruit-trees will flourish in that soil. It is also observed in some pastures in contact with the blue lias marl, that cattle feeding after the first cutting are frequently much injured, while the same grass made into hay produces no bad results from its consumption. The ascertainment of the nature of these excretions, in those grasses and vegetables which are more particularly the object of the agriculturist, might lead to a more judicious selection as to the rotation of crops; and it was with such a view that I suggested to the Society the premium specified in your report.

I am, Sir, &c.,

C. H. WILKINSON.

55, Pulteney street, Bath.

While writing of turnips as food for sheep, we are impelled to urge the farmer (by way of timely caution) not to incur the risk of a third season of attack by the grub. Let him resolutely abstain from that crop, and, after ploughing in as large a quantity of the ammoniacal lime, at the gas works, as he can obtain, or, in its place, quick lime, with the addition of some soot and sulphur, substitute the turnip-rooted cabbage, *Kohlrabi*; sowing the seed in March, for transplantation. More of this in due season. The grub does not touch this root.—*Herald*.

There is no question more interesting or of more importance to the commercial public than the law of agency; that is, the extent of liability to which agents are enabled, by the laws of this country, to bind their principals. This question is the more important in time of peace, as in the nature of things foreign houses of great business will be represented by an agent resident in the metropolis.

The power of an agent to bind parties to the house he represents by the contracts he enters is not questioned at the present day; the ambiguity of the law, or if not so at least the doubts of merchants upon the subject, are rather confined to the question of how far and to what extent an agent can bind his principal. An agent's authority to make valid contracts on behalf of his house with third persons has, as we have before intimated, not been doubted of late years.

Our observations will therefore be directed to the consideration of the extent of an agent's power, the scope of his authority, to bind his principals.

The scope of his authority is to be judged of from circumstances; for example, a principal trading in two capacities, or we should rather say carrying on two sorts of business, but being represented by an agent in but one of the two, a transaction with the agent in the one business in which he had not been accustomed to represent his principal would be of questionable validity.

Another feature incident to the character of an agent is, that he may be discontinued in his office by his principal. In this he is similarly circumstanced to an attorney for the transaction of an absentee's business acting under a power—the revocation of the power, or the death of the party granting it, dissolves his functions. Here a field of controversy and doubt is opened, and much litigation is not unfrequently occasioned. The cause of question and litigation arising by the abrogation of an agent's functions may be easily imagined. If a principal wishes to avoid a contract made by his discharged agent, he endeavours to bring notice home to the party with whom the contract is made of the fact of such discharge having taken place. The law in this respect is not faulty; as it is properly a question of liability determinable upon the ascertainment of fact. For example, a merchant actually having notice of an agent's discharge, should not contract with him. Again, a merchant having been represented by an agent whom he has for some cause, thought fit to remove, should nevertheless submit to carry out all the contracts of that agent, until he has given due notice to his connexions of such removal. However much it is to be deplored, it is nevertheless true, that litigation not unfrequently arises upon the question of fact, to which we have lastly alluded, although when the cases come before the jury, the actual facts are made to appear as plain and palpable as the sun at noon day, and it becomes matter of regret, on the part of the friends of the litigants, that better feelings and faith had not been observed.

As to the question of notice, we would observe generally that a discharged agent can continue to bind his late principal until that principal has used all due diligence in warning and notifying to his connexions that the agent with whom they have been accustomed to deal has been removed. Unless this were so, it would be unsafe to deal with any agent, as there would be no warranty that he was the agent he appeared to be. It may be urged against this doctrine that if the agent did not bind his late principal he would bind himself. Such an obligation would however in many cases be most unsatisfactory and unavailing. A gentleman is frequently of sufficient probity of character to represent a house for the making of contracts to any extent, but wanting responsibility of circumstances to execute them, if his principal were allowed to escape.

It is objectionable in principle, but it not unfrequently happens that an individual represents a house as its agent, and yet on some occasions transacts business on

his own account. Now if a merchant deals with such an agent, at one time as an agent, and at another on his own account, a question may arise in some of these contracts, as to whether the *qua* agent was dealing for himself or no.

The case, however, of an agent having dealings with a house at all times as an agent, known and dealt with only by that house as an agent, always binds his principal, although he may occasionally trade for himself with other houses.

A very important case, affecting the doctrine of agency, has recently been tried in the Court of Queen's Bench, we allude to the trial of *Trueman v. Loder*—at this trial the dealings of Higginbotham, who resided in this country, were decided to bind his principal Loder, a Russia merchant resident abroad. We deem the verdict of the jury in this case to be right in law and justice.

No evidence was offered to show that Trueman had ever traded with Higginbotham other than as Loder's agent, nor was any knowledge traced to Trueman by which he could be led to even so much as doubt the agency character of Higginbotham as the representative of Loder's house. To what other conclusion, therefore, could the jury bring themselves?

HEREFORDSHIRE EPIPHANY SESSIONS.

IMPORTANT TITHE CASE.

SIR HUNGERFORD HOSKYNs, BART. v. C. MARRIOT, ESQ., AND M. H. JONES, CLERK.

This was an appeal on the part of Sir H. Hoskyns against an order made by the two magistrates above-named, by which he had been directed to pay the sum of 4*l.* as tithes due on certain clover to the Rev. Wm. Coke, Perpetual Curate and Vicar of the parish of Pencoyd, in this county. The order of the magistrates was made after samples of the clover had been produced to them, and the object of the appeal was *bonâ fide*, and without any feeling of ill will, to try the justice of the claim. The notice of appeal stated that the claim was for vicarial tithes on clover grown on Sir H.'s own lands, no part of which produce had been converted into seed clover, and therefore maintained that it was not titheable by respondent, having been appropriated as fodder for cattle.—Mr. Smith for the respondent, said, the order had been made under the 3rd section of the 8th and 9th William III. Mr. Coke was entitled to the small tithes, and Sir Hungerford to the great tithes. The honourable baronet possessed certain lands in the parish, and the tithe had been incurred upon land in his own occupation, and which was his property. The tithe was claimed upon clover seed, which Mr. Coke required to be set out in a particular way while in the stalk, and before the seed was rubbed out. He (the learned counsel) could show from authorities that his client was entitled to have it so set out. Mr. Smith then referred to Commyn's Report, 603, and the 3d vol. of William's Tithe Cases, and was proceeding to remark further on this point, when Mr. Greaves, who appeared for the appellant, observed that the real question in this case was, whether the produce alluded to was clover seed, or food for cattle and used for fodder.—Mr. Smith contended that if the owner allowed clover to ripen into seed, the vicar was entitled to small tithe; if he intended it for fodder, it must be severed before it arrived at that period.—After some further remarks, Mr. Smith called Jas. Webb, who said, I am employed to collect the small

tithe for Mr. Coke, who is vicar of Pencoyd; I have been in his service for about two years; Sir Hungerford Hoskyns has land in the parish called Nether-town; some part of it was under clover in July last; it was Dutch clover, and there was some wild trefoil among it; this clover ripens in July, when not spring grazed, and at the latter end of July it is fit for seed; at the end of that month I saw the clover in question; I saw it on the day of the Tithe Commutation Meeting; a part of it was then in cocks, and the rest in swathes; it was quite ripe enough for seed; I observed it particularly; it was ripe enough for seed before it was cut down; I took a sample, which was a fair specimen of the whole; the clover was out of blossom; it was hauled away without any tithe being set out; there was a difference in quality between the upper and lower part of the field, but as to the ripeness it was about the same; it does not happen that clover fit for seed is also fit for fodder; this clover was not fit for fodder, but for seed.—Cross-examined: there were not two loads to an acre; the quantity per acre was more than a ton; it was worth 5*l.* an acre for manure; none of it was fit for fodder. (Sample produced.) This is something of the same sort; I don't know that wild trefoil spoils a field for clover seed; clover exposed to rain becomes of a darker colour; I do not know that the clover was used for fodder; sometimes clover intended for seed is spring grazed, and sometimes it is not.—Mr. Greaves in reply said he admitted that the vicar was entitled to small tithe on clover when used as seed; he admitted also that proper time for setting it out was when it was mown,—but he contended that the producer had a right to convert his crops to any purpose he thought proper. The learned counsel quoted cases to show that the tithe-owner cannot control the mode of husbandry, but must take his chance of whatever plan the occupier may adopt. The farmer possessed the power of making a crop into clover-hay or clover-seed at his own pleasure. Mr. Greaves put the following case:—suppose he were to shut up a field for mowing, but from the dryness of the season or other causes, at the hay harvest it was not likely to prove a remunerating crop, therefore he turned his cattle in to graze it off, whereby the crop instead of being rectorial tithes, in case it had been made into hay, became vicarial tithes in respect of the grazing or agisting of cattle upon it, thereby proving the right of the occupier to farm his land according to the most profitable mode of husbandry, it being a maxim of law, and indeed of common justice, as between the rector of a parish and a vicar of a parish, that the party entitled to the 10th part of the produce, shall not control the produce of nine parts out of ten in appropriating them in the most profitable manner, provided the transaction as was clearly proved in the present case, be *bonâ fide*, and without fraud or collusion on the part of the producer.—With respect to the supposed hardship upon clergymen, Mr. Greaves observed that the statute of Edward III. gave him treble damages if the tithe were not properly set out, and he contended that it was incumbent upon his learned friend in support of his case to have shown that the clover was thrashed and used as seed, because there was no clover in which some seed might not be found. The learned counsel then called some respectable witnesses (farmers) who proved that the clover in question had been stacked and used as fodder. A labourer also proved that it had been harvested as such.—Mr. Smith replied, after which the Court gave their unanimous opinion that the tithes were Rectorial and not Vicarial, thereby deciding in favour of Sir H. Hoskyns, the Appellant.

THRASHING MACHINES EXEMPT FROM TOLL.

IMPORTANT TO FARMERS AND TOLL-GATE KEEPERS.

Grand Jury Room, Shire Hall, Stafford.

*Before CHARLES CLARKE, Esq., Chairman, and
RICHARD BEECH, Esq.*

A case of some interest to the agricultural community, came on for hearing before the Magistrates on the 4th ult., in which James Brassington, of Bednall, labourer, was charged by Maria, the wife of Henry Tuncliffe, toll collector, with having passed through the toll-gate at Whitgreave, on the 23d of Oct., with 3 horses drawing a thrashing machine, and then and there refusing to pay the toll demanded.

Mr. Passman appeared for the defendant, and on the hearing of the case, contended that the allegation could not be sustained. The thrashing machine belonging to Mr. Tavernor, and the defendant was merely employed in conveying from one point to another, and his refusal to pay toll for the thrashing machine in question, was by his master's directions; as he, Mr. P., was prepared to shew that such refusal was perfectly justifiable. By stat. 3, Geo. 4, c. 136, sect. 30, it was provided that exemption might be claimed and taken in respect of "any horse, beast, or other cattle or carriage employed in carrying or conveying, on the same day any dung, soil, or compost, or manure (save and except lime) for improving lands, or any ploughs, harrows, or implements of husbandry." Now he, (Mr. P.) contended that a thrashing machine was an implement of husbandry within the meaning of the statute, and therefore entitled to exemption.

The Magistrates entertained considerable difficulty in satisfying their minds whether the present case came within the general exemption clause, as cited by Mr. P., and were of opinion that as the case was one of great importance, it was very desirable to take counsel's opinion upon it. The suggestion was adopted by Mr. P., and the following case was drawn and submitted to Mr. Williams, of E. V., the Inner Temple:—

CASE.

A person keeps a thrashing machine which he lets out on hire to farmers, and when each farmer has done with it, it is removed by the last farmer's team to the premises of the one next using it, so that it is always taken from place to place by the agricultural teams of the farmers, and not of the owner of it. In its transit from one farmer's to another, toll was demanded for it at the turnpike gate, but the driver refused to pay any toll, and told the gate keeper his orders were not to pay any toll, as the machine was an implement in husbandry, and was exempt from toll. The gate keeper summoned the driver for refusing to pay the toll, under 3d Geo. 4, c. 126, s. 32, and on the hearing before the Magistrates, it was urged on the part of the gate keeper, that the machine was not an implement in husbandry within the meaning of the act, and if it was, he had gone more than two miles along the road, and was let out to hire, which brought it within the meaning of the act, and subjected to pay toll. On the part of the driver it was urged, that to all intents and purposes, it was an implement in husbandry, and consequently exempt from toll, under the general exemption clause of the act, namely, "or for any horse, beast, or other cattle or carriage employed in carrying or conveying, having been employed *only* in carrying or conveying, on the same day, any dung, soil, compost, manure, (save and except lime), for improving lands, or any ploughs, harrows, or implements in husbandry,

unless laden with some other thing not hereby exempted from toll." And as to its having gone more than two miles along the road, it was contended that that exemption did not extend to any of the foregoing exemptions from toll, but merely such as were afterwards stated in the act, namely, "or for any horses or other beasts employed in husbandry, going to or returning from plough or harrow, or to or from pasture, or watering place, or going to be or returning from being shod or farried, such horses or beasts not going or returning on those occasions more than two miles on the turnpike road, on which the exemption shall be claimed." That such clause was disjunctive, beginning, "or" and not conjunctive, which would of course have been "and," and merely applied to such horses and beasts going to plough, harrow, or water, as therein particularly specified, and had no reference to the former part of the section, relative to conveying implements in husbandry, &c., from place to place. There was no proof of hiring given before the Magistrates.

Your opinion is, therefore, requested—first, whether a thrashing machine is an implement in husbandry within the meaning of the act; secondly, whether it comes within the clause of the section of exemption from toll by travelling more than two miles along the road; and thirdly, whether if it had been proved to be let on hire, if that would have made it liable to toll, being an implement in husbandry.

OPINION.

This is a question, as it appears to me, on which conflicting opinions must be expected. My own, though not at all confidently entertained is, that a thrashing machine is an implement of husbandry within the words of the act, it is so, as it strikes me, in the ordinary sense of the word. I can find nothing either in the language or the principle of the accompanying enactments, to exclude such a sense in construing the exemption, which, being in favour of agriculture, must be regarded liberally.

I am clearly of opinion that the excepting proviso, as to the two miles, is confined exclusively to the occasions immediately preceding.

I think the letting on hire does not at all affect the case. (Signed)

EDWARD VAUGHAN WILLIAMS.

Inner Temple Lane, Nov. 17, 1837.

The Magistrates adopted Mr. Williams's opinion and dismissed the information, but did not allow costs.

POTATO BRANDY.—M. Krauss, of Dusseldorf, has lately given his attention to the deleterious effects of the spirit extracted from potatoes, and which is in general use in the north of Europe, both as a liquor among the lower classes, and as the basis of a finer class of cordials, and some medicines. Several physicians have already pointed out its deleterious effects, but as the researches of chemists could not find any injurious principles in the rectified spirit, no attention was paid to this opinion. M. Krauss imagines that he has found out the difference between spirits of wine and spirits of potatoes, but he deems it much more important first to show the extraneous matters introduced into the latter, and to this he at present confines himself; he says that not only is the rectification of the spirit but too often carelessly conducted, but the spirit itself is made from potatoes which are either rotten, or which have begun to germinate. Its effects upon the human frame he describes as most dreadful; producing delirium tremens, idiocy, &c.; and as, from its cheapness, it is immoderately used, most of the crimes committed in Sweden and Rhenish Prussia, are due to the abuse and nature of this brandy.—*Athenæum.*

BRITISH AGRICULTURE.

The following information respecting British agriculture, is collected from an interesting and useful work on the Social and Economical Relations of the Kingdom, by G. R. Porter, Esq.

The increase of the population* of the United Kingdom, would be sufficient to contradict the idea of any inadequacy in the quantity of food, if the observation and experience of every one did not enable him otherwise to disprove such a position; and as it is equally impossible to believe that the increasing wants of the people have been met by supplies from without, the conviction is irresistibly forced upon us, that a most important extension of agriculture must have taken place within the kingdom. It is not necessary for us, however, to rest satisfied upon this point with reasonings and calculations, however convincing, since we are enabled to ascertain with precision, from custom-house returns, the entire quantity of grain that has been imported into the kingdom for each one of a long series of years. It is equally unnecessary to load these pages with numbers and lengthened tables of figures, in order to make good the position that has been here advanced. The following short statement of the quantity of wheat that has been imported in each year of the present century will suffice to show how insignificant, when compared with the wants of the community, have been the supplies which we have drawn from foreign countries:—

Quarters.	Quarters.
1801 . . . 1,396,359	1821 . . . 2
1802 . . . 498,359	1822 . . .
1803 . . . 297,145	1823 . . . 12,137
1804 . . . 598,067	1824 . . . 15,777
1805 . . . 842,879	1825 . . . 525,231
1806 . . . 280,776	1826 . . . 315,892
1807 . . . 379,833	1827 . . . 572,733
† 1808 . . .	1828 . . . 842,050
1809 . . . 424,709	1829 . . . 1,364,220
1810 . . . 1,491,341	1830 . . . 1,701,885
6,009,468	5,349,927
Annual average 600,946	Annual average 534,992
1811 . . . 238,366	1831 . . . 1,491,631
1812 . . . 244,385	1832 . . . 325,435
1813 . . . 425,559	1833 . . . 82,346
1814 . . . 681,333	1834 . . . 64,653
1815 . . .	1835 . . . 28,483
1816 . . . 225,263	
1817 . . . 1,020,949	1,992,548
1818 . . . 1,593,518	
1819 . . . 122,133	Annual average 398,509
1820 . . . 34,274	
4,585,780	
Annual average 458,578	

It appears from this statement, that in the ten years from 1801 to 1810, the average annual import of wheat into the kingdom amounted to 600,946

* During the thirty years that intervened between the census of 1801 and that of 1831, that increase amounted to 7,968,000 souls, and in 1836 must have reached about nine millions and a half—a number equal to the entire population of England (exclusive of Wales) in 1811.

† The exports of wheat in this year exceeded the quantity imported.

quarters: and as the mean number of the population during that period was 17,442,911 souls, this quantity would afford a very small fraction above a peck for the annual consumption of each person. The average importation in the ten years between 1811 and 1820 was 458,578 quarters; and as the mean number of the population had in that period advanced to 19,870,589, that number of quarters would afford each person not quite one gallon and a half towards the year's consumption. In the third period, between 1821 and 1830, the average annual importation advanced to 534,992 quarters, but the population had advanced in an equal proportion, so that the annual share of each person in the foreign supply was still rather below the quantity (one gallon and a half) last stated. The average amount of importation in the five years from 1831 to 1835 has been somewhat less—398,509 quarters; and if we estimate the progressive increase of population at the rate of one and a half per cent. per annum, which experience has shown to be the actual rate of increase, the mean number of consumers in this period has been 25,218,221; so that if the importations had been fairly divided among them, each would annually have received just one gallon of wheat. In each of the three periods of ten years into which our statement has been divided, there have been two years of large importation arising from deficient harvests; and in the last period of four years, the year 1831 was of this character. If those years were excluded from the calculation, the average importations would of course be materially lessened. Taking the last four years, the average has been only 125,229 quarters, or less than three pints per head for each one of the people; and if the calculation is limited to the years 1833, 1834, and 1835, the average importation of 58,494 quarters brought from foreign countries and our colonies, would afford just one pint and one-fifth, equal to about 15 ounces of fine flour, during the year to each consumer.

While the total number of families in Great Britain has increased between 1811 and 1831, from 2,544,215 to 3,414,175, or at the rate of 34 per cent., the number of families employed in agriculture has increased only from 895,998 to 961,134, or at the rate of 7½ per cent. The increased production which is thus seen to have been brought about by a comparatively small addition of labour, has in a great degree resulted from the employment of capital in improving the soil, in draining and manuring, in throwing down a great part of the fences with which our forefathers were accustomed to divide their farms into small patches, by the use of improved implements of husbandry, and, above all, through the employment of a better system of cropping by rotation. Nor should we omit to notice, among the most effective causes of this improved condition of agriculture, the help that has been borrowed from men of science. In particular the researches of Davy, undertaken at the instance of the Board of Agriculture, about the beginning of the present century, may be mentioned as having produced the happiest results, by showing the various resources we can command, through the application of chemical knowledge, for remedying the defects and improving the natural capabilities of different soils. It may be added, that the great agricultural improvements which have taken place since the peace, and which are still in progress, while they negative the notion of an uninterrupted series of losses on the part of cultivators, are, in some degree, the consequence of the stimulus to exertion supplied by low prices. Had prices continued high, the farmers would perhaps have gone on in their old course; but

with so considerable a fall as they have experienced in the value of their produce, such a course would have been attended with certain ruin, and in this way the improvements they have made may be said to have been forced upon them.

The following table of the number of inclosure bills passed by Parliament, of the annual excess of

exports or imports, and of the average prices of wheat in England, will give a tolerably correct idea of the progress of agriculture in that part of the kingdom, during each of the 75 years between 1760 and 1835. For the convenience of examination, this table is divided into eight periods; seven consisting each of ten years, and the last of six years:—

Years.	Number of Inclosure Bills.	Excess of Export over Import.	Excess of Import over Export.	Av. price of Wheat in England.	Years.	Number of Inclosure Bills.	Excess of Export over Import.	Excess of Import over Export.	Av. Price of Wheat in England.
		Quarters of Wheat and Meal.	Quarters of Wheat and Meal.	Av. Price from London Gazette.			Quarters of Wheat and Meal.	Quarters of Wheat and Meal.	Av. Price from London Gazette.
				s. d.					s. d.
1760 ..	24	393,611	..	36 6	1800 ..	63	..	1,242,507	110 5
1761 ..	21	441,956	..	30 3	1801 ..	80	..	1,596,359	115 11
1762 ..	39	295,329	..	39 0	1802 ..	122	..	493,359	67 9
1763 ..	31	429,466	..	40 9	1803 ..	96	..	297,145	57 1
1764 ..	66	396,856	..	46 9	1804 ..	104	..	398,067	60 5
1765 ..	60	62,579	..	52 0	1805 ..	52	..	842,879	87 1
1766 ..	49	153,919	..	43 1	1806 ..	71	..	280,776	76 9
1767 ..	35	..	492,834	64 6	1807 ..	76	..	379,833	73 1
1768 ..	60	..	341,835	60 6	1808 ..	91	13,116	..	78 11
1769 ..		45,514	..	45 8	1809 ..	92	..	424,709	94 5
	385	1,384,561		45 10		8		5,747,518	82 2
1770 ..	63	75,415	..	41 4	1810 ..	122	..	1,491,341	103 3
1771 ..	67	7,579	..	47 2	1811 ..	107	..	238,366	92 5
1772 ..	70	..	18,515	50 8	1812 ..	133	..	244,385	122 8
1773 ..	65	..	49,220	51 0	1813 ..	119	..	425,559	106 6
1774 ..	62	..	273,221	52 8	1814 ..	120	..	681,333	72 1
1775 ..	42	..	469,951	48 4	1815 ..	81	..	..	63 8
1776 ..	58	190,086	..	38 2	1816 ..	47	..	225,263	76 2
1777 ..	99	..	145,637	45 6	1817 ..	34	..	1,020,949	94 0
1778 ..	66	34,676	..	42 0	1818 ..	46	..	1,593,518	83 8
1779 ..	68	217,222	..	33 8	1819 ..	44	..	122,133	72 3
	660		431,566	45 0		853		6,042,847	88 8
1780 ..	45	220,144	..	35 8	1820 ..	40	..	34,274	65 10
1781 ..	25	..	56,845	44 8	1821 ..	25	..	.. 2	54 5
1782 ..	15	64,457	..	47 10	1822 ..	13	..	..	43 3
1783 ..	18	..	532,240	52 8	1823 ..	9	..	12,137	51 9
1784 ..	15	..	127,659	48 10	1824 ..	12	..	15,777	62 0
1785 ..	23	21,822	..	51 10	1825 ..	24	..	525,231	66 6
1786 ..	25	154,003	..	38 10	1826 ..	20	..	315,892	56 11
1787 ..	22	61,197	..	41 2	1827 ..	22	..	572,733	56 9
1788 ..	34	..	65,739	45 0	1828 ..	16	..	842,050	60 5
1789 ..	24	27,358	..	51 2	1829 ..	24	..	1,364,220	66 3
	246		233,502	45 9		205		3,682,316	58 5
1790 ..	26	..	191,665	53 2	1830 ..	21	..	1,701,885	64 3
1791 ..	38	..	398,430	47 2	1831 ..	9	..	1,491,631	66 4
1792 ..		277,861	..	41 9	1832 ..	12	..	325,435	58 8
1793 ..	46	..	413,529	47 10	1833 ..	15	..	82,346	52 11
1794 ..	42	..	172,854	50 8	1834 ..	16	..	64,653	46 2
1795 ..	39	..	294,954	72 11	1835 ..	4	..	28,483	39 4
1796 ..	75	..	854,521	76 3					
1797 ..	86	..	407,242	52 2		77		3,694,433	54 7
1798 ..	52	..	336,939	50 4					
1799 ..	65	..	423,823	66 11					
	469		3,216,096	55 11					

It will be seen that in the ten years from 1760 to 1769, when the average number of inhabitants of England and Wales was 6,850,000 souls, the quan-

tity of wheat produced was more than sufficient for home use by 1,384,561 quarters—an inconsiderable quantity, and so near to the then wants of the

people, that the deficient harvests of 1767 and 1768 occasioned the importation of the comparatively large quantity of 834,669 quarters.

The select committee of the House of Commons, which sat in 1813 to inquire into the state of the corn trade, stated in their report, that through the extension of, and improvements in, cultivation, the agricultural produce of the kingdom had been increased one-fourth during the ten years preceding the time of their inquiry.

With scarcely any exception, the revenue drawn in the form of rent from the ownership of the soil, has been at least doubled in every part of Great Britain since 1790. This is not a random assertion but, as regards many counties of England, can be proved by the testimony of living witnesses; while in Scotland the fact is notorious to the whole population. In the county of Essex, farms could be pointed out which were let just before the war of the French Revolution at less than 10s. per acre, and which rose rapidly during the progress of that contest, until, in 1812 the rent paid for them was from 45s. to 50s. per acre. This advance has not, it is true, been maintained since the return of peace: in 1818 the rent was reduced to 35s., and at the present time is only 20s. per acre, which, however, is still more than double that which was paid in 1790. In Berkshire and Wiltshire there are farms which in 1790 were let at 14s. per acre, and which, in 1810 produced to the landlord a rent of 70s. being a five-fold advance. These farms were let in 1820 at 50s., and at this time pay 30s. per acre, being 114 per cent. advance upon the rent paid in 1790. In Staffordshire there are several farms on one estate which were let in 1790 at 8s. per acre, and which having in the dearest time advanced to 35s., have since been lowered to 20s.; an advance after all of 150 per cent. within the half century. The rents here mentioned as being those for which the farms are now let, are not nominal rents from which abatements are periodically made by the landlord, but are regularly paid, notwithstanding the depressed prices at which some kinds of agricultural produce have of late been sold. In Norfolk, Suffolk, and Warwickshire, the same or nearly the same rise has been experienced; and it is more than probable that it has been general throughout the kingdom.

It is not possible to state the amount of land which has been brought into cultivation under the inclosure acts, of which mention has been made. In a report drawn up by a Committee of the House of Commons, which sat in 1797 to inquire into the state of waste lands, an estimate given of the number of acres which had been comprised in the inclosure bills carried into execution between 1710, when the first inclosure bill was passed in England, and the time of the inquiry. If the estimate of this committee be taken as the basis of a further calculation, it will be found that the whole number of acres brought into cultivation from the beginning of the reign of George III. to the end of the year 1834, has been 6,840,540, viz. :—

	Acres.
From 1760 to 1769.....	704,550
" 1769 to 1779.....	1,207,800
" 1780 to 1789.....	450,180
" 1790 to 1799.....	858,270
" 1800 to 1809.....	1,550,010
" 1810 to 1819.....	1,560,990
" 1820 to 1829.....	375,150
" 1830 to 1834.....	133,590
	6,840,540

The following is a statement of the territorial sur-

face of Great Britain, Ireland, and the adjacent islands; exhibiting the quantity of statute acres of cultivated lands, of the wastes capable of being brought into a state of cultivation, and of all other kinds of surface unfit for the production of grain, vegetables, hay, or grasses. Made out in May, 1827 :—

	Cultivated.	Uncultivated.	Unprofitable.	Summary.
England ..	25632000	3454000	3256400	32342400
Wales	3117000	530000	1105000	4752000
Scotland ..	5265000	5950000	8523930	19738930
Ireland	12125280	4900000	2416664	19441944
British Islands }	383690	166000	569469	1119159
	46522970	15000000	15871463	77394433

—Statistical Journal.

WEST KENT AGRICULTURAL ASSOCIATION.—At a meeting of the Committee of this Society, held at the Bull Inn, Lewisham, on Wednesday, January 10, the following premiums for meritorious conduct were awarded. £. s. d.

To Robt. Harris, servant to Mr. Edward Owen, of Brockley, in which service he had remained upwards of 30 years, for having brought up a family of eight children without parochial aid. The Society's first prize of	3	3	0
To Robert Berry, servant to Mr. W. C. Selby, in whose service he had remained 14 years, for having brought up a family of five children without parochial aid. A premium of	2	2	0
To Richard Elliott, servant to Mr. Richard Tyler, for a service of upwards of 25 years, and for general good conduct.....	2	2	0

There being no claims for the prizes offered by the Society in the class for shepherds, no premiums were awarded.

In consequence of there not having been a sufficient number of ploughs to compete at the last Ploughing Match, according to the rules of the Society, for the premiums offered in the class for farmer's sons, the Committee awarded the following gratuities.

To Mr. John Edgerton, a piece of plate, value two guineas.			
To Mr. Edward Edgerton, ditto, value one guinea.			
Gratuities were also given for meritorious conduct,			
To Richard Simmonds, steward to Capt. Crosse, of Hayes, for length of service and general good conduct	1	1	0
To John Colburn, jun., servant to John Cator, Esq., for length of service and general good conduct	1	1	0
To John Hurdell, servant to Mr. Abraham Owen, of Lewisham, for length of service and general good conduct	1	1	0
To William Ellis, servant to Robert Boyd, Esq., as a deserving shepherd.....	1	1	0

SMITHFIELD SHOW.—Mr. Davis, the celebrated Animal Painter, of Chelsea, has completed and published a coloured lithographic print of the famous "Short-horn Heifer," the property of R. W. Baker, Esq., of Cottesmore, Rutlandshire, from an original picture, painted expressly for that gentleman. This remarkable animal won the Gold and Silver Medals and 15 sovereigns at the last Smithfield Annual Show, besides other prizes at provincial exhibitions. The price of this print is 15s., and may be had of Mr. Davis, at Chelsea, or at the Mark Lane Express Office, 19, Old Boswell-court, Strand.

CATTLE TRADE IN FRANCE.

Previous to 1816 there existed perfect freedom for the importation of cattle into France; but at that period, the wants of the public treasury were so severely felt, that every expedient was hit on for supplying them; and a law, passed in April, 1816, imposed a duty of 3 francs per head on cattle. In 1822 this duty was increased to 50 francs, in order to protect French agriculture. Ten years afterwards a bill was introduced by the government reducing the duty one-half; but the committee to which the bill was referred reported in favour of the maintenance of the duty of 50 francs. In 1834 a new bill was brought in, by which it was proposed to place the duty on the weight at the rate of 7 centimes per kilogramme, with a proviso that the new impost should not exceed per head four-fifths of the former duty, or 40 francs. On the 29th of April in the same year the committee, in their report upon the bill adopted the principle but, required that the tax should be raised to 9 centimes the kilogramme; and the session came to a termination before the question was decided. The law consequently remained in its previous state; and it has had the effect not only of decreasing importation (the object desired for the protection of French agriculture,) but of diminishing the internal consumption of the country.

It appears by returns from the department of the French customs, that the importation of cattle into France considerably diminished after the imposition of the high duty of 50 francs per head in 1822. In the year 1821 the amount of importation was as follows:—

Bulls and Oxen.	Cows.	Sheep.
27,137	23,146	246,456.
While in 1836 it was:—		
8,347	11,621,	144,282.

Thus it seems that in that space of time, the importation diminished more than two-thirds in oxen, and about one-half in the other two kinds of cattle. Moreover, all the present importation is absorbed by the limitrophic markets on the frontier; for, in point of fact, the duty, added to the expense of transport, totally prevents foreign cattle from being brought to certain markets in the interior. Previous to 1826, out of 100,000 oxen annually consumed at Paris, 4,200 were foreign oxen. In 1836 not a single foreign ox was consumed in that city. The native grazer, consequently, no longer meets with any competition in that market. On the other hand, the exportation of French cattle to places abroad, has also experienced a great diminution; though proportionally less than that to which the importation has been subject. For instance, taking the year 1827 as the starting point, it will be found that the amount, even then reduced in comparison with the year 1820, progressively diminishes until 1836, when a sudden increase in the exports was occasioned by an accidental cause—viz., the considerable supply which was sent from the south of France into Spain. It appears then that less foreign cattle has been introduced into France, and less French cattle sent to other countries; and this branch of trade, which like every other, ought to have become enlarged during the last twenty years, has, on the contrary suffered serious depression.

It will readily be believed that the diminution of the exports must have been, to a certain extent, compensated for by a corresponding diminution of the imports. Nevertheless, the importation has experienced a greater reduction than the exportation. Indeed the difference is very considerable. How then has this difference been supplied? By the in-

ternal production of the country (say the defenders of the existing system), which under that system, has largely augmented. At first sight, this statement is plausible enough; but it is founded on no data, and is contradicted by very important evidence. Official documents, published under the authority of the Department of Commerce, show that 358 towns, containing altogether a population of 3,922,338, consumed 198,885,650 kilogrammes of meat in 1816, being a consumption of 50 kilogrammes 71 per individual. In 1833, 376 towns, the total population of which amounted to 4,803,416, consumed, 242,331,830 kilogrammes of meat; being at the rate of 50 kilogrammes 41 per individual. Consequently the consumption in the town has diminished since the period when a duty was first imposed on foreign cattle, by 3-10ths of a kilogramme per individual. This diminution of consumption is particularly observable in the large towns, such as Paris, Lyons, &c. The evil consequences of such a state of things, in a hygienic point of view, need not be dwelt on.

Consumption having then become decreased, it may be conjectured that production has probably remained stationary; and this supposition is confirmed by the rise which has taken place in the price of meat. The average price of beef per kilogramme, which in 1816 was 80c., was in 1834, 84c.; the prices of cows' flesh has risen in the same period, from 68c. to 70c.; the price of veal, from 86c. to 90. c; and the price of mutton, from 84c. to 88c.

The present system has had the effect of raising the price and diminishing the consumption, and its operation has been severely felt by the working classes, who always suffer by the high price of the necessities of life. It has also withdrawn from commerce an important object of speculation. The question then arises, would not a reduction of the duty, by bringing a greater number of foreign cattle into the French markets, and producing thereby a reduction in the price of meat, and a consequent increase in the consumption, be advantageous to the general interests of the community, including the agricultural interest also? This question has naturally awakened the attention of economists in France, and at a meeting of the Conseils généraux de l'Agriculture, du Commerce, et des Manufactures, held a few days ago in Paris, a proposition made by the Conseil d'Agriculture to effect a change in the present system was taken into consideration. The Conseil d'Agriculture proposes that the duty for oxen should be 11 centimes per kilogramme, in lieu of a fixed duty of 50 francs per head, with a proviso that in no case shall the duty exceed 50 francs per head. The duty proposed by the Conseil d'Agriculture to be placed upon sheep is 15 centimes per kilogramme.

It is calculated that this rate of taxation will operate in the following manner:—Taking 600 kilogrammes as the average weight of the oxen which come into France by Alsace and the north, the duty would, consequently, with respect to the departments lying in that direction, remain at 50 francs per head, or 8 centimes and one-third per kilogramme. At Besancon the duty would also continue at 50 francs per head, because there the average weight is 450 kilogrammes. But at Valenciennes the duty would not be higher than 48 francs; while at Dunkirk it would fall as low as 37 francs 40 centimes, for there the average weight is not higher than 340 kilogrammes. At Thionville the duty would be only 35 francs 75 centimes, for there the average weight is 325 kilogrammes. Finally, at the Pont de Beauvoisin the reduction would be as much as one-half of the present duty, because the oxen which

come from Savoy do not weigh in the average more than 250 kilogrammes. At first sight it would seem that a great reduction of duty would thus take place in favour of the French consumer, but, in point of fact, the greater proportion of foreign cattle enters France by Alsace and the north; and in that quarter, it is admitted, the proposed alteration will not effect any diminution in the rate of duty. The new plan is, therefore, objected to by all those who think that foreign competition would prove an advantageous stimulant to the national agriculture, and that high rates of protective duty are anything but beneficial for those branches of industry which they are designed to foster. In proof of this argument, the result which attended the imposition of an extravagant duty upon foreign wool was mentioned at the meeting of the Conseil d'Agriculture.

The object for which the high duty was fixed was, of course, to secure an exclusive market and a high price to the home-producer. But according to the accounts given, the effect produced was of a totally opposite character; in point of fact the price of wool lowered to the great consternation of the advocates of the high duty; and the new tariff was accompanied by this additional evil, that soon afterwards the activity of the wool manufactories ceased. The present perfection of the silk manufactures at Lyons was also instanced, as showing the benefits of competition. Previous to the revolution, the preparation of the silk for manufacture was so imperfect at Lyons, that the silk goods manufactured at that city were greatly inferior to those of Piedmont; and a heavy duty was necessary for the protection of the French silk manufacturers. On the junction of Piedmont to the French empire this protective duty ceased, and the result has been that, year after year, the Lyonnais have improved their processes and their productions, and at the present moment their manufactures are superior to the work of their Piedmontese rivals.—*Statistical Journal*.

THE DIVISIONS OF WOOL.

The old and apparently simple division of wool was into *LONG* and *SHORT*, or, according to the purposes to which it was devoted, *COMBING* and *CLOTHING* WOOL; but there was considerable difficulty in arranging some fleeces which were of intermediate lengths, and convertible to either purpose. The almost incredible improvement in machinery within the last few years, and the change which had long been gradually taking place in certain wools, unobserved even by the owners of the sheep, and stoutly denied by them when it was first exposed to public attention, and also the revolution that has since been effected in the character of other wools, and the purposes to which they are devoted, have rendered this division totally inapplicable.

In the classification of wools, at least of such as are of British growth and are consumed in British manufactures, the author adopts the arrangement proposed by an intelligent correspondent at Bradford, whose name he regrets that he is not permitted to divulge, viz., *LONG*, *MIDDLE*, and *SHORT*.

LONG WOOL.—The most valuable of the long-wool fleeces are of British origin. A considerable quantity is produced in France and Belgium, but the manufacturers in those countries acknowledge the superiority of the British wool. It is to them what the foreign clothing wools have become to the Eng-

lish manufacturer. It is indispensable in many of their goods; and it is that by mixture with which, they are enabled to use the produce of their own country. In 1833, 1,424,208 lbs. of long wool were exported from England to France; and 3,275,448 lbs. to Belgium.* Long wool is distinguished, as its name would import, by the length of its staple. The average is about eight inches. It has much improved of late years both in England and in other countries. Its staple has, without detriment to its manufacturing qualities, become shorter; but it has also become finer, and truer, and sounder. The long-woolled sheep has been improved more than any other breed; and since the close of Mr. Bakewell's valuable life, who may justly be considered as the father of the Leicesters, the principal error which he committed has been repaired, and the long wool has progressively risen in value, at least for combing purposes. Some of the breeds have staples of double the length that has been mentioned as the average one. Pasture and breeding are the principal agents here.

Probably, because the Leicester blood prevails in, or, at least, mingles with every other long-woolled breed, there has been rapidly increasing, a great similarity in the appearance and quality of this fleece in every district. The short-woolled fleeces are, to a very considerable degree, unlike in fineness, elasticity, and in felting property; the sheep themselves are still more unlike; but the long wools are losing their distinctive points—the Lincoln has not all of his former gaunt carcass, and coarse and entangled wool; the Romney Marsh has got rid of a little of the roughness of his form, and the length of his leg, while his wool, possibly a little thinner, has become truer and finer; the Teeswater has, in a manner disappeared; the Cotswold and the Bampton have become varieties of the Leicester: in fact, all the long-woolled sheep both in appearance and in fleece, are becoming of one family; and rarely, except from culpable neglect in the breeder, the fleece has not been injuriously weakened, or too much shortened, for the most valuable purposes to which it is devoted.

In addition to its length, this wool is characterized by its strength, its transparency, its comparative stoutness, and the little degree in which it possesses the felting quality.

Since the extension of the process of combing to wools of a shorter staple, the application of this wool to manufacturing purposes has undergone considerable change. In some respects the range of its use has been limited; but its demand has, on the whole, increased, and its value is more highly appreciated. There are certain and important branches of the woollen manufacture in which it can never be superseded, and connected with which it will be considered to be the staple produce of Great Britain.

"If any wool, peculiar to our isle,
Is given by nature, 'tis the comber's lock;
The soft, the snow-white, and the long-grown flake."

This long wool is classed under two divisions, distinguished both by the length and the fineness of the fibre. The first, the long combing wool, is used for the manufacture of hard yarn, and the worsted goods for which that thread is adapted, and requires the staple to be long, firm, and little disposed to felt. The short combing wool, has, as its name implies, a shorter staple, and is finer, and more felty. The felt

* MacCulloch's Dictionary of Commerce, Art. "Wool."

† Dyer's Fleece, book ii.

is also closer, and softer, and is chiefly used for hosiery goods. The middle wools are now usurping the place of the short-combing ones, and the short-combing, approaches nearer to the quality and purposes of the long-combing wool.

MIDDLE WOOL.—The middle wool is almost a new article, but it is rapidly increasing in quantity and value. It will never supersede, but it will only stand next in estimation to the native British long fleece. It is yielded by the half-bred sheep, a race that will become more numerous every year, being a cross of the Leicester ram with the South-down, or the Norfolk, or some other short-woolled ewe: retaining the fattening property and the early maturity of the Leicester, or of both; and the wool deriving length and toughness of fibre from the one, and fineness and feltness from the other.

Norfolk and Suffolk are taking the lead in the cultivation of this valuable breed; but the practice is establishing itself in every part of the kingdom, where the pasture and other circumstances will permit the introduction of such a breed. The average length of staple is about five inches. There is no description of the finer stuff goods in which this wool is not most extensively and advantageously employed; and the noils (the portions which are broken off by, and left in the comb, whether belonging to this description of wool or to the long wool) are used in the manufacture of several species of cloth of no inferior quality or value.

Under the head of middle wools must now be placed those, that, when there were but two divisions, were known by the name of short wools: and if we were treating of British productions alone, would still retain the same distinctive appellation. They are the South-down, Norfolk, Suffolk, Dorset, Ryland, and Cheviot wools; together with the fleece of several other breeds, not so numerous, nor occupying so great an extent of country. From the change, however, which has insensibly taken place in them all,—the lengthening, and the increased thickness of the fibre,—and more especially from the gradual introduction of other wools possessing delicacy of fibre, and pliability, and felting qualities, beyond what these could boast of, and at the same time, being cheaper in the market than the old British wools ever were, or could be, these have gradually been losing ground in the manufacture of the finer cloths, and now ceased to be used in the production of them. On the other hand, the change which has taken place in the construction of machinery has multiplied the purposes to which they may be devoted, and very considerably enhanced their value. It may be a little mortifying to the grower of the British short wool, to find that neither the superior, nor even the middle classes of society, will condescend to wear the cloths produced from this material; but human ingenuity has not only brought good out of evil, but has increased the advantages previously possessed, and has placed the interests of the grower and the manufacturer of wool on a basis which no changes in fashion or commerce can ever more materially affect.

A few years ago the grower of the British short-wools considered them as devoted to clothing purposes alone. He not only would have thought them disgraced, if the comb had been applied in the preparation of them for the loom; but, if pressed on

that point, he would have confessed that they would not bear the action of the comb. Now they rank among the combing wools: they are prepared as much, and in some places more, by the comb, than by the card. On this account they meet with a readier sale; and although, perhaps, they will never more obtain an extravagant price, yet considering the increased weight of each individual fleece, and also the increased weight and earlier maturity of the carcase, they will, in proportion to the value of other agricultural productions, and uninfluenced against the changing character of the times, yield a fair remunerating price.

The qualities of these respective wools will be hereafter considered. The South-down sheep yield nearly seven-tenths of the pure short wool grown in the United Kingdom, the Dorsets, Rylands, Norfolks, &c., furnishing the remaining three-tenths: but these proportions vary in different districts, and, as has been already intimated, the half-bred sheep is, in some parts of the country rapidly, and in all of them gradually, encroaching on the pure short-woolled one—beautiful and valuable as the latter is.

The average staple of the British short-woolled, or rather, now of this description of middle-woolled sheep, is $3\frac{1}{2}$ inches.

Mr. Goodman, of Leeds, whose kindness the author particularly acknowledges, says, that “these wools are now employed in flannels, army and navy cloths, friezed coatings, Petershams, bear-skin and other coatings, heavy cloths for calico-printers and paper-manufacturers, woollen cards, coarse woollens, blankets, East India army cloths, and other woollen articles, many of them adapted to the trade of the United Kingdom, and largely exported to North and South America, the East and West Indies, Germany, and other places; besides for the same purposes, being partially used in cassinets, baises, bockings, long ells, carpets, druggets, &c.” Let the most enthusiastic admirer of the old short wools read this list, and say whether he has any reason to regret or to be ashamed of the change that has taken place.

SHORT WOOL.—From this division every wool of British production, save the Anglo-merino, may be considered as now excluded. It consists chiefly of a rapidly increasing importation from our colonies of New Holland and Van Diemen's Land, a smaller quantity from Russia, a decreasing one from Spain and an amount very great, but now seeming to be stationary, from Germany. A Table to explain these importations, will be found in the next page.

These wools are employed unmixed in the manufacture of the finest cloths, and combined with a small proportion of British wool, in others of some inferior value. The properties of the two kinds of wool will be slightly noticed when the history and present state of the manufacture of wool in Great Britain come under notice. The average length of staple is about two and a half inches.

Even these wools may now be submitted to the action of the comb. There may be fibres only one inch in length, but if there are others from two and a half to three inches, so that the average of the staple shall be two inches, then a thread sufficiently tenacious may, from the improved state of machinery, be spun, and many delicate and beautiful fabrics, unknown a few years ago, readily woven.

ACCOUNT OF SHEEP AND LAMBS' WOOL IMPORTED INTO GREAT BRITAIN FROM FOREIGN PARTS,

IN THE UNDERMENTIONED YEARS, SPECIFYING THE COUNTRIES WHENCE IT WAS BROUGHT, THE QUANTITY BROUGHT FROM EACH, AND THE RATES OF DUTY, AND THE PRODUCE OF THAT DUTY.

Countries from which Imported.	1810.	1820.	1825.	1830.	1832.	1833.	Rates of Duty.	Chargeable.
Russia, Sweden, and Norway.....	lbs. 59,503	lbs. 75,614	lbs. 1,995,900	lbs. 203,231	lbs. 855,680	lbs. 1,405,082	Until 5th July 1803.	Free.
Denmark.....	351,741	13,527	554,213	179,717	302,848	372,490	From 5th July 1803, to June 1804.	5s. 3d. per cwt.
Prussia.....	123,057	107,101	131,100	743,246	833,988	305,379	— 1st June 1804, to 5th April 1805.	5s. 10d.
Germany.....	778,835	5,113,442	28,799,661	26,073,882	19,832,225	25,370,106	— 5th April 1805, to 10 May 1806.	5s. 11d. 8-20ths
The Netherlands.....	2,873	186,051	1,059,243	939,123	209,144	811,031	— 10th May 1806, to 5th July 1809.	6s. 4d. 2-30ths
France.....	3,018,961	230,909	436,678	45,093	1,973	259,844	— 5th July 1809, to 15 April 1813.	6s. 8d. per cwt.
Portugal.....	95,187	95,187	953,793	461,942	193,544	681,968	— 15th Apr 1813, to 5th July 1819.	7s. 11d.
Spain and Canaries.....	5,952,407	3,539,229	8,206,427	1,643,515	2,626,624	3,359,150	— 5th July 1819, to Oct. 1819.	1d. per lb.
Gibraltar.....	349,053	3,851	19,250	.. 9,461	78,552	855,510	—	—
Italy.....	21,554	2,815	227,453	.. .. .	564	4,803	—	—
Malta.....	40,040	5,050	72,131	.. .. .	17,992	361,591	—	—
Ionian Islands.....	.. .. .	.. .. .	25,983	.. .. .	14,465	105,689	—	—
Turkey.....	.. .. .	189,584	513,414	.. .. .	13,516	30,374	—	—
Morocco.....	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	Of British Possessions.	Of Foreign Countries.
Guernsey, Jersey, Alderney, and Man.....	41,407	19,015	22,266	7,745	.. .. .	.. .. .	—	—
East Indies.....	701	8,056	.. .. .	.. .. .	2,377,057	3,516,869	— 10th Oct. 1819, to 5th Jan. 1823.	1d. per lb.
New Holland and Van Diemen's Land.....	167	99,415	323,995	1,967,309	83,257	93,325	— 5 Jan. 1823, to 10 Sept. 1824.	3d. 6d. ..
Cape of Good Hope.....	29,747	13,869	27,619	33,407	628,915	335,649	— 10 Sep. 1824, to 10 Dec. 1824.	1d 3d. ..
British N.A. colonies, W. I., & U. S. of America.	4,111	1,477	80,538	9,038	3,139	.. .. .	— 10 Dec. 1824, to 5 July 1825.	1d ..
Mexico.....	.. .. .	.. .. .	.. .. .	.. .. .	23,191	14,640	— 5th July 1825, free.	.. .. .
Peru.....	.. .. .	.. .. .	14,313	5,741	.. .. .	.. .. .	.. .. .	.. .. .
Chili.....	.. .. .	14,792	.. .. .	20,589	15,456	2,049	.. .. .	.. .. .
Rio de la Plata and Brazil	116,173	73,036	331,302	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Prize.....	23,837	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Total Import from foreign parts.....	10,914,137	9,789,020	43,795,281	32,319,059	28,142,489	38,076,413	.. .. .	.. .. .
Quantities retained for Home Consumption...	.. .. .	7,691,773	41,101,636	31,522,859	27,666,350	39,066,620	.. .. .	.. .. .
Amount of Duty received	£. s. d. 32,580 4 3	£. s. d. 181,860 19 6	£. s. d. 163,799 16 7 1/2	£. s. d. 120,420 8 0	£. s. d. 102,031 2 3	£. s. d. 137,855 1 8	.. .. .	.. .. .

[From Mac Culloch's "Dictionary of Commerce."]

BANK OF ENGLAND.

The importance that is necessarily attached to the soundness of the principle that governs the decision of the Court of Directors in the management of their issues and the good or ill effects that must result to commerce in proportion as that principle is maintained or departed from, induces us to give extracts from the pamphlet of Mr. Loyd on the "State of the Currency." The rank Mr. Loyd holds as an able writer, and the advantages he possesses from his position in the commercial world, give an authority to his opinions that few can command.

We shall commence our extracts with the table he has given and to which frequent reference is made in the course of his argument.

BANK OF ENGLAND.

	Circulation.	Deposit.	Bullion.	Securities.
1836.	£	£	£	£
June 28	17,899,000	13,810,000	7,362,000	27,153,000
July 26	17,940,000	14,495,000	6,926,000	28,315,000
Aug. 23	18,061,000	14,796,000	6,325,000	29,345,000
Sept. 20	8,147,000	14,118,000	5,719,000	29,406,000
Oct. 18	17,936,000	13,324,000	5,257,000	28,845,000
Nov. 15	17,543,000	12,682,000	4,933,000	28,134,000
Dec. 13	17,361,000	13,330,000	4,545,000	28,971,000
1837.				
Jan. 10	17,122,000	14,354,000	4,287,000	30,365,000
Feb. 7	17,868,000	14,230,000	4,032,000	31,085,000
Mar. 7	18,178,000	13,260,000	4,048,000	30,579,600
April 4	18,432,000	11,192,000	4,071,000	28,843,000
May 2	18,480,000	10,472,000	4,190,000	28,017,000
May 30	18,419,000	10,422,000	4,423,000	27,572,000
June 27	18,202,000	10,424,000	4,750,000	26,932,000
July 25	18,261,000	10,672,000	5,226,000	26,727,000
Aug. 22	18,462,000	11,005,000	5,754,000	26,717,000
Sept. 19	18,814,000	11,093,000	6,303,000	26,605,000
Oct. 17	18,716,000	10,501,000	6,856,000	25,316,000
Nov. 14	18,344,000	10,242,000	7,432,000	23,985,000
Dec. 14	17,998,000	10,195,000	8,172,000	22,727,000

Upon casting the eye over this table there are two considerations which cannot fail to arrest our attention.

1. The principle upon which the Bank proposed to guide its proceedings in the management of the currency was that of keeping the amount of its securities fixed; and the present periodical publication of its accounts in the *Gazette* was adopted principally for the purpose of enabling the public to understand its proceedings, and to satisfy themselves that they are conducted in obedience to the rules laid down. By these accounts, however, it appears that the securities, instead of being kept at a fixed amount, have fluctuated to a very great extent. Either, then, the Bank has failed to adhere to its own rule, or the accounts as published are wholly insufficient to afford the public a just view of its action.

The apparent fluctuation in the amount of securities during the year 1836 was explained by a reference to some peculiar and unusual transactions, which, it was contended ought to be struck out of the account, and this being done, the amount of securities, it was said, would approach to steadiness. Is any similar explanation to be afforded of the present remarkable diminution in the amount of the securities? If so, of what value is the published column of the securities for the information or satisfaction of the public? If not, the rule laid down by the Bank for its own guidance, is obviously abandoned.

Which of these suppositions is the correct one can be decided positively by those only who have means of access to other accounts of the bank than those which are submitted to the public. But there are grounds upon which, though it may be presumptuous to decide, we may still surmise with some confidence that the fluctuation in question is not altogether the effect of a peculiar and distinct transaction, but that it arises out of the ordinary action of the Bank upon the currency.

In the first place, it is to be observed that the increase in the amount of securities took place concomitantly

with an equally remarkable diminution of the amount of bullion, and during a period when commercial pressure and embarrassment was gradually approaching after a state of high commercial excitement; and that the amount of securities was at the maximum at the very moment when the amount of bullion was at the minimum. (See the table for the year 1836.) On the other hand, we find the securities regularly diminishing as the bullion as regularly increases until we come to the converse of the former state, and find the highest amount of bullion and low amount of securities coincident in point of time. This latter process, too, has been going on principally during the gradual removal of commercial pressure and the return to quiescence.

In the second place, we see, by the table, that the diminution of securities during 1837, though rapid and large, has been regular and equable in its progress, thus exhibiting the strongest presumptive evidence that it is an effect proceeding from some cause which has been in continuous and uninterrupted action.

And in the third place, we know that an important portion of the securities held by the Bank during the year 1836 consisted of those which she received in her various efforts to support public credit—such as increased extent of discounts, aid rendered to concerns tottering under the pressure of overgrown transactions, and means provided to enable others actually in a state of suspension to discharge at once their debts to the public. It is hardly possible to doubt that during the year 1837 the advances of the Bank of this nature have been in a course of repayment, and must at this moment be very much less than they were twelve months since.

These considerations would lead us to conclude, without much hesitation, that the great diminution in the amount of securities held by the Bank is the inevitable result of her banking operations during the period of tranquillity which succeeds a commercial convulsion.

But it is not necessary to dwell longer on this branch of the subject. Steadiness in the amount of the securities has been held out as a guiding principle with the Bank. "The Bank holds a fixed amount of securities, notwithstanding the altered amount of deposits, except in particular and extraordinary circumstances;" (Palmer's Reply, page 7,) and it was therefore impossible not to remark upon the discrepancy between this rule and the column of securities in the annexed table. We are not, however, ourselves disposed to lay too much stress upon this rule, inasmuch as we conceive that steadiness in the amount of the securities is a principle applicable to the management of currency only, and wholly inapplicable to the conduct of banking operations in any form. When it is applied to the combined operations of the Bank in her double capacity, we conceive that it is impracticable, and the published accounts seem to verify this opinion.

2. We will, therefore, pass on to the next and far more important consideration to which an examination of the foregoing table will necessarily draw our attention; that of the relation between the fluctuations in the amount of circulation and those in the amount of bullion.

It will be observed that during the year 1837 the amount of bullion has been steadily increasing, being, at the end of the year, double the amount at which it stood at the beginning of it. Now it is clear that had the circulation been metallic, it would, during this time, have increased to the extent to which the bullion in the Bank has been augmented, *i. e.*, nearly four millions, and consequently, if the paper-circulation be made to vary as a metallic circulation would have varied, it will during this time have undergone an increase of nearly four millions. But upon turning to the column of circulation, we find that it stands now at nearly the same amount at which it stood when the bullion was at the lowest point; and that it has actually undergone a large reduction during the last three months concomitantly with a large increase of bullion.

But the Bank laid down other rules than this for its guidance, and it has been contended that the legislature and the public gave an implied acquiescence in those

rules. Let us, then, try the proceedings of the Bank by them.

One of these was steadiness in the amount of the securities, upon which we have already made all the remarks which it seems to require.

The other rule was, that the fluctuations in the amount of bullion should be met by a corresponding fluctuation in the aggregate amount of circulation and deposits. Against the soundness of this rule we urged, on a former occasion, what appeared to us to be conclusive objections; but if the conduct of the Bank during the past year be tried by this test, the condemnation of it will even be more conclusive than when tried by the rule for which we have contended.

In March, 1837, it was maintained in Mr. Palmer's Reply (p. 7) "that the Bank has acted up to the principle declared in the year 1832, before the Committee upon the Bank Charter;" that principle being that the joint liabilities of notes and deposits were to vary as the amount of bullion. Let us, therefore, compare the account rendered by the Bank at that time with the account last published by her.

March 7.

Circulation ..	£18,178,000	Bullion	£4,048,000
Deposits	13,260,000		
Joint Liabilities	31,438,000		

December 14.

Circulation ..	£17,998,000	Bullion	£8,172,000
Deposits	10,196,000		
	28,194,000		

By this statement it appears that the bullion has increased 4,124,000*l.*, whilst during the same period the joint liabilities have diminished, not increased, 3,244,000*l.* Therefore it is clear that the joint liabilities have not varied as the bullion has varied, and consequently the rule laid down by the Bank has not been observed.

It is equally clear by the table that the circulation has not varied as the bullion, and therefore the rule contended for by us has not been observed.

Let us now contrast the amount of securities at these two periods.

March 7, Securities	£30,579,000
Dec. 14, ditto ..	22,727,000

Decrease of Securities..... 7,852,000

Here we find a very large diminution in the amount of securities; what amount the Bank will contend ought to be struck out of the account as arising out of deposits of an unusual and extraordinary character it is impossible for us to say; but it is hardly possible to believe that so great a difference in the amount of securities can be satisfactorily explained on such grounds.

To enable us, moreover, to come to a correct estimate of our actual situation at the present moment, it is necessary to remark that the statements here commented upon merely show the average condition of the Bank during the three preceding months; and there is good reason to apprehend that the discrepancies apparent upon the average statement given to the public would be found to be still more wide and striking, if we had before us an account of the bullion, circulation, &c., as they now actually stand. Indeed it is in the very nature of an average statement that it does not show the extreme points either of elevation or depression, but only the mean point attained during the three months for which the average is calculated. We may therefore conclude almost without the possibility of error, that the circulation and the securities which have been in a course of diminution during the last three months, are at this moment much below the amount given in the last average return: and that the bullion is much higher than it appears to be by the same statement. Upon the same principle we may take it for certain that the actual amount of bullion at the beginning of the year, when by the average return it appears at the minimum, was in fact much lower than that statement shows, and the securities at the same period much higher. A due attention to these considerations is necessary to enable us to form a correct estimate of the full extent to which

the fluctuation under discussion have really gone; though it is difficult to believe that there is not some great error in statements which lead to conclusions so extraordinary.

The Bank holds out to the public, as the best practicable security for the due management of the currency, steadiness in the amount of the securities held by it, and a variation in the aggregate amount of circulation and deposits corresponding with the variation in the amount of bullion.

A strict adherence to sound principle requires a variation in the amount of circulation alone corresponding to the variation in the amount of bullion.

For the purpose of satisfying the public that those rules are sufficiently attended to, the Bank is required to make a periodical publication of her accounts; and by these it appears that during the last year the securities have diminished from thirty-one millions to less than twenty-three millions; the aggregate of circulation and deposits shows a decrease of nearly four millions; whilst in the same period the bullion has risen from four millions to eight millions.

In the face of these facts, is it not idle to talk of rules, or to refer to tables of published accounts, for our satisfaction? It must surely be admitted that the regulation of the currency is in no degree subject to the stern restraint of principle; and, indeed, we cannot well avoid the conclusion that the power of controlling it has passed out of the hands of the Bank.

IMPORT OF CATTLE.—Number of Cattle, &c. imported from Ireland into Liverpool, from the 1st January to the 30th December, with the average value for the same; and the same imported Coastwise for the same period, namely,

IRELAND.	Per head.	£.	s.	d.
81220 Black Cattle ..	£16 0s.	1292520	0	0
158 Calves	2 5	355	10	0
159436 Sheep	2 0	318872	0	0
22231 Lambs.....	0 18	20007	8	0
504756 Pigs	2 10	761893	0	0
3774 Horses	20 0	75480	0	0
310 Mules	8 0	2580	0	0
Total.....		£2478604	18	0
COASTWISE.				
3490 Black Cattle..	16 0	55840	0	0
158 Calves.....	2 5	355	10	0
74614 Sheep	2 0	149228	0	0
2428 Lambs	0 18	2185	4	0
9666 Pigs	2 10	24165	0	0
119 Horses	20 0	2380	0	0
		234153	14	0
Total.....		£2712758	12	0

COTTAGE ALLOTMENTS.—Mr. Warner stated, that there were two parishes in England where poor-rates are known only by name, in consequence of the system of cottage allotment having been introduced by the landlords; one of these was Asweby, in Lincolnshire, the other was a place in Yorkshire, the name of which he had forgotten. Lord Sandon said he had 300 such allotments of about a quarter of an acre each, which he let out at about 2*l.* to 3*l.* per acre, and which returned to the occupier about 3*l.* per quarter. Lord Nugent stated several beneficial results which had followed from the adoption of the system, and the chief of these was infant labour, which made every allotment an industrial and agricultural school.—*Proceedings of the British Association at Liverpool, quoted in the Labourer's Friend Magazine for December.*

INEQUALITY OF THE EXCISE LAWS AS THEY AFFECT THE SCOTCH AND ENGLISH DISTILLERS.

[This subject, which is at present occupying the attention of Scotch as well as English distillers, and is by no means devoid of interest to the English Barley-grower, appears to be fairly represented in the subjoined letter. The merits of the case are placed in rather a different point of view than the subject had been previously looked at, and therefore deserves perusal.]

TO THE EDITOR OF THE FIFE HERALD.

SIR:—The trade of manufacturing grain spirits by Scotch distillers for the English market is at present greatly depressed, and the parties in Scotland who are interested have attributed to the inequality of the Excise Laws the sole cause of such depression. Meetings have been held in Fife, and also in Edinburgh. East Lothian, and Alloa, and from these meetings petitions have been sent to the House of Commons, and to the Lords of the Treasury, entreating them to pass a law uniform in its operation over the three kingdoms, and to put into immediate effect the recommendations of the Excise Commissioners' Seventh Report. The speakers at these meetings have said much calculated to mislead those unacquainted with the subject, and they have misstated both the law and practice as applied to the English distillers. Were the Government to pass an equal law as prayed for, and apply the English distillery regulations in all points to Scotland, three-fourths of the present manufactories in the latter country would strenuously oppose the assimilation. Then, as to the second request, all that the Excise Commissioners have stated in favour of the petitioners is in their report, on page 93, and amounts to this:—"The Scotch distiller exporting to England to pay the duty on the quantity landed, instead of on the quantity shipped, limiting the amount of difference between those quantities," whether the limitation might be a quarter or a half per cent. It is certain the Government could not give a great latitude in this respect, without doing great injustice to the English distillers. Should this indulgence be granted, it cannot be withheld from the English distillers, as they often send great quantities of spirits by sea to considerable towns on the west and north of England. Were, then, this very trifling of an indulgence granted to the Scotch distillers, would such a mite enable them to carry on a profitable trade in the London market? Certainly not. That the trade of manufacturing raw grain spirits for the English market by Scotch distillers is not a remunerating one, need not be wondered at, and is in no way attributable to the Excise Laws. Judge the case in this plain way, and as it really stands. It is a well-known fact, that the English distillers can supply themselves with grain on terms quite as advantageous as it can be procured in Scotland. This places the distillers on an equality as to material; but the expenses of transit from Scotland to the London market are stated to be from 4d. to 6d. a gallon. This disadvantage cannot be removed by the provisions of a revenue act, and the deputation of London distillers stated before the Commissioners of Excise inquiry, that half the expenses of transit from Scotland would suffice for the profit of an English distiller.

There are other advantages which the London distillers have, and quite unconnected with the Excise laws:—Large capitals, which afford the means of carrying on distillation by the most economical modes, and at the least rate of profit, besides the superiority which extensive establishments have over smaller ones. These considerations are not entirely conjectural, they derive great confirmation by a reference to the manufactory of beer, where, in the absence of nearly all excise regulations, the small brewers can hardly stand against the large ones. To give some idea of the magnitude of the English houses, it is only necessary to mention that the number of distillers throughout England is only twelve, and the amount of duty paid by

them in 1833 was 1,420,525*l*. The three largest in the immediate neighbourhood of London in the same year paid to government the immense sum of 622,082*l*. In 1833 the number of distillers in Scotland was two hundred and sixty, and the amount of duty paid by them was 1,329,844*l*. There are several points in which there are differences of regulation as they apply to England and to Scotland; in nearly all the points of difference the variation is in favour of Scotland—decidedly so, for home consumption, and for men of small capital. In England no still of less capacity than 400 gallons is allowed to be used—no less than eighty gallons of spirits can be sent out of a distillery—no distillery allowed unless situated within a quarter of a mile of a market town, containing at least four hundred inhabited houses—no malt drawback given—spirits cannot be warehoused, and only two per cent. allowed for waste arising from the distillation of low wines into feints and spirits. In Scotland stills of 40 gallons content are allowed—nine gallons of spirits can be sent out of a distillery—distilleries may be erected anywhere—a malt drawback of *eight pence per gallon* is allowed, and *five per cent.* allowed for waste arising from the distillation of low wines into spirits and feints. The above comparison shows greatly in favour of Scotland. It is not however, the owners of small stills, and the manufacturers of a fine spirit for home consumption who are seeking to disturb the present laws, but the lairds and farmers on the shores of the Forth, and a few distillers, perhaps ten in number, who manufacture a coarse spirit for rectification in London. In former periods of discussion, the raw grain distillers urged the Government to take away the allowance on spirits made from malt as a means of giving them relief. This however, had it been granted, would have been merely a change in the laws without giving any benefit, and such will be the effect of the present demand. The English distillers have a short credit, which is not the case in Scotland, but it is in the contemplation of Government to remove this inequality. The full worth of this alteration fairly calculated, will amount to eighteen twenty-sixths of a farthing per gallon. The causes which operate against the profitable manufacture of grain spirits for the English market being of a commercial, not of a fiscal nature, neither the Executive nor the Legislature can remove them.

Instead of blocking up the avenues of Downing-street fill the chambers of the Highland Society with deputations. In this place alone can be found the legitimate fountain of succour. Devise a scheme of granting a bounty of fourpence per gallon on all spirits distilled in Scotland for the English market for which purpose a voluntary tax of a farthing per acre on the land in Scotland will furnish ample means. Then, and not till then, can the Scotch fairly cope with the English distillers.

It is the agricultural interest of Scotland, not the national interests of Great Britain, who derive the benefit of this trade, and those who are benefited have within themselves the complete, the only means of its being hereafter carried on with substantial, profitable, and lasting success.

ONE CONNECTED WITH THE EXCISE.

AGRICULTURAL SOCIETIES IN IRELAND.—Even in parts of Ireland where little agricultural competition has hitherto been found to exist, improvement is now rapidly advancing. At a late show in Bandon there were no less than 10 candidates for the mangel wurzel prize, which was awarded to Lord Carbery; and there were numerous competitors amongst the working farmers for that as well as the other prizes, amounting to twenty-five. At the late Lismore cattle show, the Duke of Devonshire carried away the prize for the best bull and cow; and a tenant of his grace, a widow named Keff, obtained premiums for the best potatoes in drill, for clover with ryegrass, for vetches, and a prize of 5*l*. for the best cultivated farm generally. Of the prizes lately given on Lord Stanley's estate, four or five were also obtained by widows.—*Manx paper*.

ON THE BENEFITS OF AN INCREASED OUTLAY FOR LABOUR.

SIR,—Permit me to make use of your columns for the purpose of urging on my brother farmers the duty of giving employment to the poor at this season of the year. The new poor law, while it has undoubtedly operated beneficially in reforming many idle and dissolute characters, has, I fear, severely distressed many honest labourers who had large families to maintain. Let any man make the calculation for himself, and he will find it utterly impossible to maintain six or eight persons in health and strength at the low rate of wages which prevails in many parts of the kingdom. It is not indeed in our power to alter the law, but we may do much to alluviate its pressure, by looking out the most profitable work for the poor fellows who have been deprived of their allowances; and if we pay them a trifle more than their labour is strictly worth, I do not think we shall ever repent it. It is not for our interest (putting humanity out of the question) that the labourer should be half starved. If he and his family are compelled to live upon potatoes and water, as I fear is already the case in many instances, where is the demand for our wheat and barley to come from? I much doubt whether the present reduction of poor rates ought to be considered as a clear gain to the agriculturists. I estimate that this reduction is almost equal, in my own case, to 5s. per qr., on my crop of barley. That the price of barley has actually been depressed by the operation of the new law, no one, I believe, doubts, whether more or less than 5s. per., I will not undertake to say. I do not assert that the measure has therefore done no good; on the contrary, I admit, that so far as the demand for barley in times past has increased by habits of intemperance, the diminution of that demand is a national benefit. But so far as the operation of the new law has deprived the sober and industrious labourer of those comforts which he formerly enjoyed it is an unmixed evil; it oppresses the labourer without enriching the farmer, since the diminished consumption of food takes away from him as much as he gains in the reduction of his rates.

It is so ordered by our maker, if we would but see and attend to it, that the interests of the different classes of society, instead of being opposed to one another, are intimately and inseparably connected. If all fields were cultivated as they ought to be, thoroughly drained, thoroughly cleaned, and thoroughly manured, there would be ample employment, winter as well as summer, for every labourer in the kingdom, and food enough produced to afford every man a piece of meat for dinner, with a pint of beer after it. A slovenly or niggardly farmer is therefore a public enemy. He is an enemy to the labourer by depriving him of employment; an enemy to the community at large, since he grows only four bushels of corn where he ought to grow five; an enemy to his landlord, by injuring his property, and bringing it into bad repute; and lastly, he is often an enemy to his own wife and children, by dissipating those means on which they depend for support, for it is well known that slovenly farming and agricultural distress are the names for one and the same thing.

I am surprised that men of landed property often appear so little to understand the extent of good they might accomplish at a very small expense by giving employment. A farmer cannot be expected to lay out money, unless he has a tolerably fair prospect of being reimbursed within a moderate space of time, together with the ordinary rate of forming

profit, which may be from 10 to 15 per cent. But a man of considerable property may be well content to get five per cent., or less, upon the amount of his outlay. Nay, if he nearly gets back the money expended, he has no great reason to complain. Or, to go still further, if he lays out 20s. to get back 18s. in what other way, I would ask, is it possible to do twenty shillings-worth of good, at an expense of only two shillings? Not only is the giving of alms in money too often a means of encouraging idleness and improvidence, but even when most carefully and judiciously directed, it adds nothing to the stock of human subsistence; whereas, if I pay a labourer for draining or otherwise improving my land, in consequence of which it is made to yield an increased produce, I benefit not only the labourer employed but the community at large. The whole body of the labouring classes participate, in this case, in the increased abundance of the necessities of life.

It is well known that a given surface of land is capable of producing a much larger quantity of food under a system of high farming than under an indifferent system. Not only is the gross produce greater, but the net produce; that is to say, the surplus remaining after providing for the subsistence of the men and horses employed in cultivating the land. It depends, therefore, on the style of cultivation in use whether the labourer shall be well or ill fed. A hundred acres of land under the old system of two crops and a fallow, may supply food for 10 or 20 families (according to the quality of the soil) supported on bread only. The same number of acres, cultivated in the best manner, would certainly supply half as many more families, not only with bread, but also with beer and malt. May not the agriculturist who produces only half the quantity of food that his land is capable of yielding, be justly said to hide his talent in the earth?

It is not every gentleman of landed property that retains a part of his estate in hand. But even those who do not cultivate themselves may essentially promote the general welfare by selecting spirited and improving farmers for their tenants. When a landlord receives an application for one of his farms, let him ascertain whether the applicant has a disposable capital of at least 7*l.* per acre; whether he expends at least 25*s.* per acre annually in labour; whether he grows at least one green crop for every crop of corn; whether he interposes a fallow crop, at least once in four years, whether he lays out a handsome sum annually in the purchase of artificial food, besides consuming the hay and other fodder produced on the land? If the answers to all these questions are satisfactory, let the tenant be treated liberally as to the rest. If the landlord obtains a few pounds per annum less than the extreme value of the land, he will have the satisfaction of reflecting that with those few pounds he is doing more good than he could do with a much larger sum expended in indiscriminate almsgiving.

A HAMPSHIRE AGRICULTURIST.

Dec. 30, 1837.

BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY.—Her most gracious Majesty the Queen, has manifested her respect for agriculture, through this institution, having allowed herself to be nominated its Patroness, and further signified her Royal intention of subscribing fifty guineas annually to its funds.

ON LIQUID MANURES.

(FROM A PAMPHLET BY CUTHBERT W. JOHNSON, ESQ.)

That various animal and vegetable substances, when applied to the roots of plants, accelerate their growth, has been known from a very early period, but in what manner these fertilizers serve as the food of vegetables, has not been so satisfactorily determined. That they must be in a fluid state, is supposed to be absolutely necessary; thus all the attempts of Sir Humphry Davy to make plants absorb the fine impalpable powder of charcoal obtained by washing gunpowder entirely failed.

The soluble matters, consumed by plants, are probably, in general, absorbed by their roots unaltered, although, in other cases, decomposed during their absorption. In the experiments of Davy, he caused the roots of some plants of mint to be analysed, which had grown both in pure water and in sugar and water. One hundred and twenty grains of the roots of the mint which had grown in common water, yielded three grains and a half of a deep olive extract, of a sweetish and astringent taste: one hundred and twenty grains of the roots, which had grown in the sugar and water, afforded five grains of pale greenish, sweetish extract, not so astringent as the other.* These experiments, therefore, are evidently in favour of the opinion that plants absorb many of the constituents of manures in an unaltered state, and the experiments with saline substances are still more decisive; thus in those of the late Mr. George Sinclair—

1450	grains of wheat chaff, grown on an unsalted soil, yielded of common salt .	2 $\frac{3}{4}$ grains.
1450	 from a soil salted with 44 bushels of salt per acre.....	4 —
1450	 seeds, from soil unsalted	$\frac{1}{8}$ —
1450	 from soil treated with 44 bushels of salt per acre.	$\frac{1}{4}$

Here the quantity of common salt absorbed by the plant materially increased by the increase of the supply; the preference too, which plants show for different salts, is very remarkable; as demonstrated by the following curious experiments, which were first made by M. Saussure.† In these trials, various salts were dissolved together in water, and plants of *Polygonum Persicaria*, and *Eidens Cannabina*, with their roots, were placed in the solution, the same weight of each salt was dissolved, and the solution contained one-hundredth of its weight of each salt, and in stating the result every salt is supposed to consist of 100 parts.

Proportion absorbed by the Plant.

1.	Sulphate of Soda (Glauber salt) .	11·7
	Muriate of Soda (common salt) .	22
2.	Sulphate of Soda	12
	Muriate of Potash	17
3.	Sulphate of Soda	6
	Muriate of Soda	10
	Acetate of Lime	0
4.	Gum	26
	Sugar	36

* Lectures, p. 270.

† See my Essay on Salt used in Agriculture, p. 4.

Other plants shewed similar results, in the varying quantity of the salts which they absorbed. Of such were the Scotch Fir, the *Mentha Piperita* (Peppermint), &c. as long as they were furnished with their roots, but if these were cut off, or removed in any way, the plants then absorbed the solutions indiscriminately.

The roots then are the chief organs for absorbing food of plants; and of the roots it is nearly established that the extremities are the only parts which have the power of absorption, and hence the reason why they increase in length as the soil at their extremities is exhausted of food, which nourishment is most probably always in a fluid state. It is from this cause that *liquid* manure is so valuable a fertilizer, for in the dissolution of the excrements of animals in water, as practised so advantageously in foreign countries, and long ably recommended by Mr. Knight, the talented President of the Horticultural Society, for the adoption of the English farmers, the dung is merely rendered more easily soluble by the plant, and better diffused in the land. No new compound is formed by the mixture; the action of the dung, mixed with four or five times its weight of water, is apparently much less energetic; and yet this plan is decidedly advantageous, successfully produces the most luxuriant crops, is an old practice on the Continent, is gaining ground in England, and the more it is known the oftener it will be adopted. Yet hitherto in this country much too little general attention has been paid to liquid manures; by many farmers the drainage of the farm-yard and the house is generally disregarded, and allowed to escape in the best way it can, into the nearest ditch or river, being supposed to contain nothing that is the food of plants, and that too by the very same persons who are particularly careful, in the preservation as food for their hogs of every portion of miserable dish or cabbage water.

Liquid manure is called by the farmers of Switzerland *Gulle*; in France it is called *lazier*; they obtain it by collecting the drainage of their stalls and stables into underground reservoirs or pits, where it is allowed to ferment until it attains a slimy or mucuous state. (See Gardener's Magazine, v. 5 p. 548.) The mode adopted by the cultivators of Zurich is thus described in the *Bulletin de la Soc. de Geneva*.

“The floor on which the cattle are stalled is formed of boards, with an inclination of four inches from the head to the hinder part of the animal, whose excrements fall into the gutter behind in the manner usual in English cow-houses; the depth of the gutter is fifteen inches, its width ten inches; it should be so formed as to be capable of receiving at pleasure water from a reservoir, placed near to it; it communicates with five pits by holes, which are opened for the passage of the slime, or closed as occasion requires. The pits or reservoirs of manure are covered over with a floor of boarding placed a little below that on which the animals stand, this covering is important as facilitating fermentation. The pits or reservoirs are made in masonry, well cemented, and should be bottomed in clay well beaten, in order to avoid infiltration. They should be five in number, in order that the liquid may not be disturbed during the fermentation, which usually lasts four weeks. Their dimensions should be calculated according to the number of the animals held by the stable, so that each may be filled in a week, but whether full or not the pit must be closed at the week's end, in order to maintain the regularity of the

system of emptying. The reservoirs are emptied by means of portable pumps.

"In the evening the keeper of the stables lets a proper quantity of water into the gutter, and returning to the stable in the morning he carefully mixes with the water the excrement which has fallen into it, breaking up the more compact parts so as to form of the whole an equal and flowing liquid.

"During the day, whenever he comes into the stable, he sweeps whatever excrement may be found under the cattle into the trench, which may be emptied as often as the liquid it contains is found to be of the proper thickness; the best proportion of the mixture is three-fourths of water to one-fourth of excrement, if the cattle be fed on corn; but if in a course of fattening, one-fifth of excrement to four-fifths of water will be sufficient. This mode of increasing the manure produced by stalled-fed cattle and cows, says Mr. Loudon,* is in general use in Holland and in the Netherlands, and we have seen it practised in France, at Trappe and Grignon near Versailles, at Roville near Nancy, at Ebensberg and Schleipshheim near Munich, and at Hohenheim, and Weill near Stuttgart; we would strongly recommend the practice to the British farmer; and not to the farmer only, but to every cottager who keeps a cow, or pig, nay to the cottager who is without these comforts, but who has a garden, in which he could turn the great accession of manures so acquired to due account. Let him sink five tubs or large earthen vessels in the ground, and let the portable receiver of his water-closet, all the water used in washing in the house, soap suds, slops, and fermentable offal of every description, during a week, be carried and poured into one of these tubs; and if not full on the Saturday night, let it be filled up with water of any kind, and well stirred up: begin on the Monday morning with another tub, and when after five weeks the whole five tubs are filled, empty the first at the roots of a growing crop, and refill. Or use two larger tubs, and continue filling one for a month, then begin the other, and at the end of the month empty the first."

To those who are desirous of employing liquid manure, and who object to the employment of the excrements of animals, the use of soot will be found at once easy and economical. It appears from the statements of Mr. Robertson,† that this manure is highly advantageous, when mixed with water in the proportion of six quarts of soot to a hogshead of water. "Asparagus, peas, and a variety of other vegetables," says this intelligent horticulturist, "I have manured with this mixture, with as much effect as if I had used solid dung; but to plants in pots, particularly pines, I have found it admirably adapted; when watered with it they assume a deep healthy green, and grow strong and luxuriant."

The Chinese, who are remarkably skillful in the management of manure, are particularly careful not to waste the smallest portions; and, according to Sir Geo. Staunton, they prefer the dung of birds, to that of all others, and next to that night-soil, which they apply in a liquid state. "Their first care," says our author, "is to construct large cisterns, free from absorption, to contain beside this manure, and soil of every kind, all sorts of vegetable matter, as leaves, or roots, or stems of plants, with all these they mix as much animal

manure as can be collected, or common water to dilute the whole; and in this state, generally in the act of putrid fermentation, apply it to the ploughed or broken earth." The Chinese husbandmen, we learn from the same authority, always steep their seed-wheat in liquid manure, until it swells and germinates, which they say hastens the growth of the plants, and at the same time defends them from the attacks of insects; they also apply liquid manure to the roots of plants and fruit trees. And how grateful liquid manure is to vines, &c. is well known to most English gardeners. The immense produce of grapes by the great Hampton Court vine, has been supposed to be mainly owing to its roots having penetrated to an adjoining sewer belonging to the palace; and the roots of the nearly equally celebrated vine at Valentines in Essex, are known to reach an adjoining stagnant canal.

The value of liquid manure was known in this country certainly before the days of Evelyn, nearly two centuries since; for in his Treatise on Earth, p. 123, he says, when speaking of sheep's dung, "profitable on cold grounds, and to impregnate liquors of choice use in the garden;" and p. 160, he gives the following directions for making *muck water* cried for up "doing wonders in the field." "Throw off the shortest and best marle into your cistern, exceedingly comminute and broken, which you may do with an iron rake, or like instrument, till the liquor becomes very thick, cast on this the dung of fowls, conies, sheep, &c. frequently stirring it; to this add the soil of horses and cows, grains, lees of wine, ale, beer, and any sort of beverage, broths, brine, fatty and greasy stuff of the kitchen, then cast in a quantity of lime or melting chalk, of which there is a sort very unctuous; also blood, urine, &c. mixed with the water, and with this sprinkle your ground at seasonable times; and when you have almost exhausted the cistern of the liquid, mingle the residue with the grosser compost of your stable and cowhouse. The taking up of the water out of the cistern you may much facilitate by sinking a tub or vessel near the corner of the cistern, and piercing it with holes at the bottom and sides, by which means you may take it out so clean as to make use of it through a great syringe or watering engine."—"There is yet," continues Evelyn, "a shorter process, namely, the watering with fishmonger's wash impregnated with the sweepings of ships and vessels trading for salt, adding to it the blood of the slaughter-house." He then proceeds to give various recipes for making other liquid manures; in which he strongly recommends the use of nitre, as one of the ingredients for "the barrenest ground; or water fruit trees for prodigious effects;" and concludes Evelyn, "where there is good water, there is commonly good earth. Never give much water at one time; if the water is from hungry fountains, expose it first to the warm sun for better concoction, infusing sheep's, pigeons's, or neat's dung to give it body; but though the spring water be so bad, slow running river water is often very good, and pond water excellent."*

IMPORTANT TO FARMERS.—A case of very great importance to farmers came on at the late Reading quarter sessions. It was as follows:—Mr. Hulbert rented a farm, called Langley Farm, of J. T. Wasey, Esq. and a Mr. Peel rented the game on the said

* Gard. Mag. vol. 5. p. 549.

† Gard. Mag. vol. 2. p. 18.

* Evelyn on Earth, p. 177.—Quarterly Mag. of Agriculture, vol. 10. p. 464.

farm. Mr. Hulbert and his servants did all they could to keep down the rabbits, but, notwithstanding all their efforts, finding them on the increase and doing considerable damage, he hired and employed an expert rabbit-catcher, of the name of Stanbrook, to destroy them. Mr. Peel proceeded against Stanbrook as a trespasser, and, notwithstanding he was employed by Mr. Hulbert, and paid by him as a servant, yet the magistrates at the Newbury bench, and in opposition, it is said, to their own legal advisor, thought fit in their wisdom to convict Stanbrook of a trespass on the land of the master who employed him. Stanbrook appealed against this conviction, and the case came on before a very full bench of magistrates, and, after a thorough consideration, the conviction was quashed. It is much to the credit of the majority of the Berkshire magistrates that they have thus endeavoured to protect the farmers, and prevent them from having all their corn eaten up by such vermin as rabbits, and it may be remarked that, notwithstanding the efforts of one or two ignorant persons on the bench, yet the gentlemen who were at all learned in the law gave it as their opinion that the Game Act did not deprive a farmer from destroying rabbits on the farm he occupies, either by himself or servants. Mr. Hulbert is entitled to the thanks of all his brother farmers for the spirited manner in which he has proceeded in asserting the rights of himself as well as his neighbours. A case has been demanded at the Court of Queen's Bench, but there is no fear of the result.

DISEASES OF WHEAT.

SIR,—It is singular that none who have written on the Diseases of Wheat have yet made their observations upon the roots, which certainly claim our attention as much as the ears and stalks, especially when it is known that the roots descend as deep in the earth as the stalks ascend upwards, and in most instances much deeper.

I have no desire to enter into a disquisition why there has been such an apparent neglect; still it is obvious to every reflecting mind, that the occupier of the soil should know what is going on below the surface of the earth, as well as above it.

Wheat has been cultivated from time immemorial in Great Britain, and the cause of blight has called forth the attention and ingenuity of the most eminent philosophers and naturalists in every age, as well, probably, to ascertain a remedy for its baneful effects, as to find out its cause; but it has hitherto baffled all their researches.

In 1819 it was not supposed by any of our English naturalists that the roots of Wheat descended to the depth of six feet into the earth, when it was made known to me by the late Sir Joseph Banks, to whom I sent specimens of the growth of Wheat in all its stages, showing the ramifications of its roots and stalks, from its first appearance to its arrival at maturity; for which, and other agricultural experiments, I received the thanks of the Board of Agriculture, accompanied with a silver medal, dated February 26, 1819.

Before I attempt to explain the cause of blight in Wheat it is necessary for me to give a satisfactory account of the rise and progress of the plant, both in a healthy and unhealthy state, from the time of its vegetating to its arrival at maturity. I will, therefore, with as much conciseness as possible, explain the various stages of its growth in both cases, observing first, that the healthiness of the plant depends in great measure on the nature of the soil, too much moisture or drought being alike injurious.

It will be observed, that the infant plant, sown at Michaelmas, is supported through the following winter by its seminal, and if early sown, some crown roots, which, by the month of April, become superannuated, and, when the coronal roots, which at this time shoot freely, have taken sufficient hold of the earth to supply the growing plant with nourishment, they become useless, and soon die; it will also be seen in the next place, that the coronal roots, by the time the ears are formed have descended to the depth, in most instances, of from three to four feet; the roots continue to descend in search of food so long (or nearly so,) as the stalks continue to ascend upwards. From this period to its becoming fit for the sickle is the most critical time, and the only time that mildew, or blight, has any injurious effect on that invaluable plant.

I have already shown that the seminal roots performed their allotted functions in the course of six months, when the infant plant was in a seemingly dormant state; in the more active stage of its growth, when every effort of nature is exerting its power to propagate its kind, in coalition with the artificial culture of the soil, it is obvious and clear to demonstration, that the growing plants of wheat, in a congenial season, throw out a succession of suckers to supply those that are continually dying, almost to the time of its ripening, unless prevented by drought, which must invariably happen in dry hot summers, say from June to August, when the earth near the surface is bound, as it were to a frozen state, which totally prevents new roots, with their numerous suckers, supplying the place of those that are going to decay, though at the same time it must be admitted, that the roots in such a state, so long as the weather continues dry, remain healthy, and support the plant to maturity.

Blight in wheat arises from the following cause:—

The fibres of the wheat roots have made, (from their natural tendency to shoot downwards,) by the middle of summer, a descent of at least three or four feet below the surface; that depth being beyond the immediate rays of the sun, they are not hindered by its influence from making a still further descent, and as the earth becomes parched by drought on and near the surface, the supply of nourishment to the plant depends on its support from that and a still greater depth.

The outer bark of the fibres of the roots near the surface, while the earth remains dry, has no capability of affording nutriment by its outer pores to the inner part or woody fibre; still it protects and is supplied with food from the interior sapvessels performing their functions. The reason why blight appears partial in the same fields may be generally attributed to the variation of the subsoil: the surface may appear even, but the under stratum, mostly, in silicious soils, consists of irregular and alternate beds of gravel and clay frequently approaching near, and in some instances quite to the surface. The substratum, being more or less retentive of water, furnishes support to the growing plants, the beds of gravel, after a long continuance of dry weather, are exhausted of almost every particle of moisture for several feet below the surface, which the capillary vessels and roots of the growing plant are so eagerly seeking for, for the purpose of meeting and assimilating the absorption of the atmospheric air; and when a preponderance of either takes place, the growing plants must become unhealthy; by long continu-

ance of drought the coverings of the capillary vessels become weak and less elastic, and by a superfluity of water, that element which they have long been in search of, is eagerly taken up and propelled with unusual velocity through the vessels of the plant; by this sudden revolution from want to superabundance of food, the vessels of root and stalks become distended more rapidly than their strength will admit—hence arise exudation in the roots and fungus in the stalks, which in great measure, deprive the infant grain of that nourishment which is required to bring it to maturity.

Frequent showers are much more congenial to the health of wheat than sudden rains, which, from the cause above-mentioned, burst the bark or outer coat of the plant; thus the proper healthy circulation cannot be renewed, and the vital functions are suspended, a lingering death takes place, attended with the usual accompaniments of vegetable decay.

Mildew, which the French call *rouille* or rust, is a distemper which attacks the blades and stems of corn. It covers them with a powder of the colour of iron whilst they are in their greatest vigour. This substance does not adhere strongly to the blades, for it has been frequently observed that the hair of white dogs has been full of this powder, after they have run through a field attacked with this disease. It is likewise known, that if the infected corn is washed by a plentiful rain the rust disappears almost entirely, and the grain suffers little from it. Farmers give it the name of rust from the colour of the powder, and it seems to be the same distemper which the Roman writers call *rubigo*.

There is another kind of blight, called the white blight, which generally attacks the plant about the time it comes out in ear, especially in very dry seasons. Upon minute examination it will be found that the roots die at the same time. It seldom happens except in spots or parts of a field, where the gravel approaches very near the surface. The cause of this disease is the too frequent sowing of the same kind of grain, and a want of that nourishment which the plant requires; and the reason of the straws turning white is, that before the grain begins to form, the ascending juices are a thin watery fluid; consequently they dry within the tubes or vessels, as no coagulation has yet taken place to obstruct their course upwards to the ear.

I now venture to lay before the public some of the observations and experiments made by me during the long course of years in which I have been engaged in agricultural pursuits, as I consider that in whatever sphere of life we are placed, it is the duty of every man to make known the advances he has made towards the attainment of any useful knowledge. I have now been a cultivator of the soil for more than half a century, and have had numberless opportunities of witnessing the various changes which have taken place in the minds of my brother cultivators with regard to system, causes, and effects, in their daily and yearly avocations as farmers.

The more accurate and attentive we are in our examination of things, the more we shall be convinced of the imperfection of human knowledge, and the less reason we shall have to be ostentatious of our attainments in that philosophy which is prompt to enumerate facts, but unable to develop their causes. There is nothing in nature which has more effectually baffled the efforts of human skill and industry, than the cause and cure of diseases;

and these are not less remarkable in the vegetable than the animal creation.—I am, Sir, your humble servant,
JOSEPH BADCOCK.

CHEESE FROM POTATOES.—Cheese, it is said, of extremely fine quality, is made from potatoes, in Thuringia and part of Saxony, in the following manner:—After having collected a quantity of potatoes of good quality, giving the preference to the white kind, they are boiled in a caldron, and after becoming cool, they are peeled and reduced to a pulp either by means of a grate or mortar. To 5lb. of this pulp, which ought to be as equal as possible, is added a pound of sour milk, and the necessary quantity of salt. The whole is kneaded together, and the mixture covered up and allowed to lie three or four days, according to the season. At the end of this time it is kneaded anew, and the cheeses are placed in little baskets, when the superfluous moisture is allowed to escape. They are then allowed to dry in the shade, and placed in layers in large pots or vessels, where they must remain for 15 days. The older these cheeses are the more their quality improves. Three kinds of them are made. The first, which is the most common, is made according to the proportions above indicated; the second with four parts of potatoes, and two parts of curdled milk; the third, with two parts of potatoes and four parts of cow or ewe milk. These cheeses have this advantage over every other kind, that they do not engender worms, and keep fresh for a great number of years, provided they are placed in a dry situation, and in well-closed vessels.

AN IRISH FARMER'S HOUSE.—The whole length inside was twenty feet, the width eight, and the mud and sod walls were three and a half feet high. The principal apartment, in the centre, was used as a day room. Two small places, entirely dark, one at each end of the house, formed the sleeping apartments; they were five feet six inches wide. The only light that cheered the dwelling of Owen Gray was admitted through the door way, an aperture nearly four feet high. The whole of the furniture consisted of four old broken stools, about a foot in height; as for a chair, it was out of the question. Their stock was one pig and a miserable cat; for they were possessed of neither cow, goat, nor sheep.—The children were all but naked; the shoulder and breast only of one boy, nine years old, who came to us outside, were partially covered with a portion of a ragged shirt. Upon my remarking to his mother that they must suffer in winter for the want of clothes, she replied, that they were *obliged* to go without, and were as fond of running out in frost and snow as if they had plenty of clothes, for they were used to it. This, indeed, the colour and deep wrinkles of their legs and feet abundantly testified. Owen Gray and his wife were blessed with *fifteen* children "and she had been so fruitful," to use her own words, "that she had chanced them double three times." Eleven were living. "Bare backs," said the poor woman, "would not fret me if we had plenty to eat. I would be a proud woman if we had potatoes and a grain of salt in times; but we cannot get the salt itself, nor even the bare potatoes, and we are lost for want of beds. Nine sleep in the two we have, which are nothing but a bit of straw, covered with an old blanket." The rick yard was furnished with two small ricks or stacks, from which the morsel of grain had been nearly all thrashed out, and the straw piled up again. This dwelling was not particularly selected on account of its meanness. It was the first we came to in the barony; and while I sketched it, my companion visited others which he reported to be, if possible, worse; and I was subsequently told that many in the country were decidedly inferior to Owen Gray's.—*Bins's Miseries and Beauties of Ireland.*

TO THE EDITOR OF THE MARK-LANE EXPRESS.

SIR,—The favourable reception you have given to the remarks in my last letter upon Mr. Blacker's essay, on the cultivation of small farms, and the applicability of his recommendations to the improvement of practical agriculture in this country, induces me to address to you some further observations upon his other writings, which my approbation of the above mentioned essay has led me to peruse. It is hard to say which of the subjects discussed in his "Claims of the Landed Interests to Legislative Protection" are most important, but I am inclined to give precedence to the analysis of the comparative importance of the commercial, manufacturing, and agricultural classes to the prosperity of the nation at large. In the present day, where these contending interests are pressing their respective claims upon the legislature, it is beyond measure necessary to ascertain clearly what those claims respectively amount to, and to establish how and in what manner the public is benefitted by each. Unless these fundamental points are clearly defined and understood how is it possible to legislate with any sound discretion?

It will be readily acknowledged that every public enactment ought to be for the good of the public, and not for the exclusive benefit of any particular portion thereof; but when contending classes strive for the mastery, how can the public interest be discerned, except through the investigation I have alluded to? How is the legislature to be certain that it is not granting to *impunity* what would be *denied by justice*? Or how can Parliament, as a deliberative assembly, pretend to legislate at all, the grounds being *un-ascertained* upon which alone a correct judgment could be formed. It appears to me, that to attempt to act for the public good without knowing in what the public good consists, is like a mariner attempting to steer without a compass, and that under such circumstances, should either he or the legislature arrive at the end they have in view, it will be more by *chance* than *good guiding*. It would of course be impossible to give in a letter any detailed account of the arguments advanced by Mr. B., to show that the public good is more intimately interwoven with the prosperity of agriculture, and more dependant upon it than on either commerce or manufacture. It must suffice to say that he establishes this point, not upon the general concurrence of public opinion, but on the substantial ground of arguments, which appear to me incontrovertible, and from which many important deductions may be drawn, very much at variance with the tenets of the *Doctrinaires* of the present day. It must not, however, be supposed that he is insensible to the importance of manufacture, for he distinctly states his belief that Great Britain is only preserved from bankruptcy by our manufacturers having been able, by the use of machinery, to overcome the great disadvantages they are subjected to from the high price of the necessities of life, and their being enabled to pay to the operatives they employ, such wages as enable them to become consumers of agricultural produce at those high prices, without which, neither the rent of land, the collection of the revenue, nor the payment of the public creditor could be continued. It may startle many to find it gravely asserted that, to keep up the high price of agricultural produce is necessary to the maintenance as well as of the prosperity as of the good faith of the state. But those who seriously sit down to study the arguments brought forward by Mr. B., will seldom rise up unconvinced of the truth of his opinions. The view he takes of the matter seems to be shortly this:—

The finances of this country depend on the produce of the taxes; the produce of the taxes depends on the consumption of taxable articles. And again, this consumption depends on the annual income of the community which supplies the means of purchasing such commodities. Now to apply this to the case in point. If you lower the price of agricultural produce, you inevitably lower the rent of land, which is beyond all comparison the item which adds most to that fund which supports the consumption of taxable articles, and

thereby a deadly wound is inflicted upon the revenues of the country, which even in this present state, are barely sufficient to meet the expenses of Government, and pay the public creditor.

But the injury which would thus be inflicted on the finances of the country, would not end with the mere loss of revenue proportioned to the reduction in the incomes arising from rent; it must not be lost sight of, that with the fall in the price of agricultural produce, a proportionate fall *must* take place in the *wages of labour*, and of this fact, the advocates of low prices are fully aware.

The same cause therefore which lowers *rent* having a direct tendency to lower *labour* also, it follows that the *income* or *earnings* of every working man, in every department of trade and manufacture, will be lowered in like manner. Here then is another item withdrawn from the fund, applicable to the purchase and consumption of taxable articles, by which the revenue of the state must suffer, and it is not to be supposed that the loss of income and consequent distress in which so large a portion of the community would be thus involved, would be without a prejudicial influence upon the circumstances of the other classes of society, however apparently unconnected with the original operating cause, and thus almost every member of the community would be embarrassed, the public creditor would be rendered insecure, the national prosperity would be interrupted, and the pressure of taxation would be more severely felt by individuals from their *diminished means* and the *undiminished prices of all taxable articles*. It does therefore seem to me quite clear, when all the consequences that must at end the fall in price of agricultural produce, and the rent of land, that the comforts of life would be thereby rendered more un-attainable by the great bulk of the community, and that this must continue to be the case as long as the taxation of those comforts continues to prevent their falling in price, in a manner corresponding to the reduction of wages. It being evident that if agricultural produce was lowered in price *one half*, it would not in any degree lower the price of tea, sugar, coffee, or any other comforts in which taxation form the greater part of the cost; but if these doctrines are startling to the free traders, it will not be less startling to those who decry the use of machinery and urge the necessity of again reverting to manual labour, to hear from Mr. B., that it is the advantage of the use of machinery that prevents the calamity of a national bankruptcy, for if, as has been shewn, the keeping up the rent of land be absolutely necessary for the payment of the taxes, and if that rent depends on keeping up the price of agricultural produce, it is only by the use of machinery, (which abridges so much the employment of manual labour) that the manufacturer is enabled to give such high wages to the *hands he does employ*, as to enable them to become purchasers of agricultural produce at the rates which the high rents require. The use of machinery makes that part of the cost of production belonging to manual labour so small, that the high wages of the English workman does not enhance the cost of the article so much as to prevent the manufacturer still having the advantage over his continental competitors, even in their own markets. But let it be supposed for a moment that the use of machinery was superseded, or that our superiority therein, and our advantages in cheap fuel, &c., were reduced nearly to a par with the continent, how would the case stand then? The English manufacturer could no longer give higher wages than his continental competitor, the workmen thus reduced, could no longer pay more for his subsistence than his brethren on the continent. The farmer having *no other customer* to apply to, must accept of what that customer *can give*, and the landlord must in like manner lower his rents to what the farmer can pay, but all this being done, how then are the taxes to be paid? It is quite evident they would be completely unproductive, and that no means of paying the national creditor would exist. I am by no means aware how far your ideas may be conformable with mine upon these subjects, but they are of such vital importance, and so necessary to be carefully considered at this particular time, when the claims of the manufacturing and agricultural interests are likely soon to be

discussed in Parliament, that I think you will not be disinclined to direct public attention to their discussion, and at same time explaining your own views upon topics so interesting and so important to the welfare of the community.

I have the honour to be, Sir,

Your obedient servant,

MERCATOR.

ON THE NEW PAROCHIAL ASSESSMENT.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—This important measure which is now about to be adjusted, is so intimately connected with the interest of every individual owner, or occupier of real property—but more especially of land, and farm-buildings—that I do not hesitate to invite an interchange of communication on matters connected therewith, through the medium of your valuable journal from amongst your correspondents, but more especially from those valuers, and other persons, who are appointed for carrying the provisions of the act (6 and 7 Will. IV., cap. 96.) into execution.

The measure in itself appears to be simple and well defined, namely, that all property is to be rated at its net annual value, or rather that “no rate for the relief of the poor shall be allowed, which shall not be made upon an estimate of the net annual value of the several hereditaments rated thereunto.” Thus far, the intention of the legislature is unquestionable; but then the first section of the act goes on to state, that such property shall be rated in conformity with “the rent at which the same might reasonably be expected to let from year to year, free of all usual tenant’s rates and taxes, and commutation rent-charge; and deducting therefrom the probable average annual cost of the repairs, insurance, and other expenses necessary to maintain them in a state to command such rent.” It must be admitted that here is a wide scope on which valuers may exercise their judgment and discretion. First, it is for them to determine the amount at which property may reasonably be expected to be worth to let, regard being had to local circumstances and intrinsic value; and secondly, to ascertain the amount of deduction which ought to be made to enable the proprietor to maintain the hereditaments so rated, in a state to command the same amount of rent at which they are now worth to let. Thus it is evident the construction which may be put upon the words “deducting therefrom the cost of repairs,” (*i. e.* in gates and fences, with regard to land,) “and other expenses,” (*qu.* marling, claying, underdraining, &c.,) “necessary to maintain them,” (the hereditaments, *qu.* land?) “in such a state to command such rent,” is so variable that little more can be expected from the valuers than that the assessment should be established upon one uniform principle throughout their own districts, although it may but ill correspond with the assessments made by other valuers in places remote therefrom, or even contiguous thereto; moreover, in some instances, permission is to be given to committees of rate-payers to adjust the assessments in their respective parishes, by making such additions thereto as shall be (or presumed to be) equivalent to a rack-rent. Now it is quite clear that such proceedings must necessarily destroy the fundamental principle of the bill; namely, that of obtaining a uniform and equitable assessment through the kingdom. In these committees it is to be feared that individual interest will but too frequently predominate; and, even if this should not be the case, the prevailing opinion is that the net rental should be kept down to its lowest possible amount; not because any immediate advantage can arise from such a proceeding, but because it is shrewdly suspected that some more extensive, and more important alteration in the system of parochial taxation—if not in the financial department of political

jurisprudence—may already be contemplated by the legislature, of which this, the Parochial Assessment Act is but the *avant courier*.

If no other reason existed for an equitable adjustment of the assessment by a new valuation founded upon a solid basis in the first instance, rather than incur the risk of future litigation, that of avoiding a *rencontre* with the tithe owner would be quite sufficient to warrant the small additional expense that it will occasion. We have already seen that a loop-hole is left open for a marked assault. The poor-law commissioners have given it as their opinion, that the sum at which the tithe commutation rent-charge ought to be rated “is the net amount of such rent-charge, exclusive of the portion added to it as equivalent to the rates;” but, to use their own words—“the commissioners do not undertake to determine the effect of the proviso at the end of the first section of the Parochial Assessment Act, the object of which, is understood to be, to give the tithe-holders the benefit of the decision in the case of *Rex v. Jodrell*, which decision is held to remain unimpugned.” We all know that the effect of this decision is to levy a further sum upon the profits of the farmer, (if it can be ascertained what those profits amount to,) in addition to the rateable value of the farm, or in the event of this not being complied with, then, that “a proportionate remission should be made to the tithe-owner in rating the tithes.” The very guarded language which the poor-law commissioners employ, when they have to revert to the implied admission in the act, which is set forth in the “proviso,” “that nothing herein contained, shall be construed to alter, or affect the principles, or different liabilities (if any), according to which different kinds of hereditaments are now by law rateable;” is a sufficient proof that those gentlemen regard it as a very tender subject.

I remain, Sir, very sincerely yours,

W. NORFOR.

Dilham, Jan. 24.

ON BONE MANURE AND CONSUMPTION OF SWEDE TURNIPS BY SHEEP OR OTHER STOCK.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I will feel obliged if an experienced agriculturist will inform me, if in drilling about sixteen bushels of prepared, or pulverized bones an acre, with Swede turnip seed, and a complete, or, as it may happen, only a partial failure is the result, what in each case will more or less benefit the following crop—say barley, or oats, fairly allowing for season casualties, &c., &c.; or in other words, if you drill bone-dust, quantity and quality as above described, and the fly destroys your turnip crop, will the next crop—say barley, or oats—be benefitted to the extent of 50s. an acre, estimating barley at 3s. 9d. a bushel, and oats 2s. 9d., for the bone-dust with the expenses of drilling, it will cost nearly 50s. an acre. I purchase mine at about 22s. 6d. per qr., besides fetching it from a distance, say fourteen miles, and I pay for the use of the drill 2s. 6d. an acre, but only 1s. 3d. must be charged to the drilling the manure, as the turnips are drilled at the same time, and by the same drill. I am quite certain, if a good plant of turnips is obtained, the outlay will be repaid, including the partial benefit to the next crop.

The reason I ask this publicly, is that I can get no clear answer from my brother farmers. Some will exaggerate, and some undervalue the use of bone-dust. I am greatly anxious to know the real value of cutting Swede turnips in the field for sheep, instead of carting and consuming them in the fold-yard with plenty of litter;—a great diversity of opinion prevails on this point.

If you think these crude observations worth inserting in your journal, let them appear when you think proper.

Yours, very obediently,

A HUNTINGDONSHIRE FARMER.

Jan. 22.

N.B.—My farm is of medium turnip-land quality; rent, tithe-free, 20s. an acre; rates about 2s. 9d.

ON RATING THE TITHE COMMUTATION RENT-CHARGE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

Sir,—The following correspondence has been held with the Poor Law Commissioners with respect to the Rating the Tithe Commutation Rent-Charge, and as great difference of opinion exists on the subject, I thought their opinions ought not to be withheld from the public, therefore hope you will give publicity to the same in the Mark Lane Express; by so doing you will oblige,

Sir, yours, respectfully,

Jan. 22. A CONSTANT READER.

Dec. 26, 1837.

GENTLEMEN,—I have seen a paragraph in various newspapers represented to be the opinion of the Poor Law Commissioners respecting the rating the Tithe Commutation Rent-Charge under the Parochial Assessments Act; in the paragraph above referred to, it is stated, "*that the Assessment for the tithe ought not to be on the full Rent-Charge, but on the net annual value of such Rent-Charge after deductions made for Parochial Rates,*" under these circumstances, I trouble you for your opinion in the following case:—

The landowners of this parish have entered into an agreement for the Commutation of the Tithes, by which agreement they give 500L., by way of Rent-Charge in lieu of tithes, 400L. of which sum is the annual average amount of compositions actually paid for the seven years ending Christmas 1835, and 100L. is one-fifth of the annual average amount of poor and other rates, for the like period. In consequence of the introduction of the Poor Law Amendment Act, one-fifth of the annual average amount of poor and other rates for the years ending Christmas 1837, is 50L.; therefore, the opinion I wish to obtain is, *what proportion of the 500L. (the full rent-charge) should be deducted for Parochial Rates?*

I am, gentlemen, your obedient Servant,

A. G. W.

To the Poor Law Commissioners, Somerset House,
London.

Poor Law Commission Office, Somerset House.

Jan. 19, 1838.

SIR,—The Poor Law Commissioners for England and Wales have to acknowledge the receipt of your letter of the 26th ult., and having had under consideration the case on which you request their opinion they desire to state, that in determining the amount at which the rent-charge for which the tithes of a Parish have been commuted should be assessed, it appears to them that the estimate of the rates and taxes to be deducted, should be made on the basis of the year immediately preceding, that being the best mode for judging of what they will be in the next-year.

It would not be proper to estimate the amount to be deducted by reference to any expectations of an

increase or decrease of rates founded on mere opinion, such as the expectation that the operation of the Poor Law Amendment Act, will, during the course of the next year, reduce the rates below the amount of the preceding year, for on this opinions may very reasonably differ, while the amount of the rates of the preceding year is certain, and if applied to all property in the parish can do injustice to none.

Signed by order of the Board,

Mr. A. G. W.

E. CHADWICK.
Secretary.

CHEVALIER OR TEN-ROWED WHITE WHEAT.

TO THE EDITOR OF THE SUFFOLK CHRONICLE.

MR. EDITOR.—I am fully aware, from the interest you take in rural affairs, that you have the well-being of the agriculturist deeply at heart. I have, therefore, no hesitation in soliciting a small space in your valuable Paper, for the insertion of the following description of a new wheat, which seems to me to bid fair to be a great desideratum to your agricultural readers. It is called the Chevalier or Ten-rowed White Wheat, and the facts relative to it were furnished by Mr. W. Bartlett, surgeon, of Great Bedwin, Wiltshire, to the January number of the "Labourers' Friend Magazine":—

"In the latter end of November, 1835, I chanced to obtain one ear of the above-named wheat, which had been carried in the pocket, shown to various persons, and several of the corns lost, those which remained I planted in my field, at twelve inches apart every way. In the spring of 1836, fifty-four plants were alive. At harvest I cut the produce, and counted 527 ears of corn, many of them having 130 grains in them, which were rubbed out by the hand, measured $3\frac{1}{2}$ pints imperial, and weighed $3\frac{1}{2}$ lbs. avoirdupois. As soon as I had housed my little crop of beans, the land was got ready for a further experiment with this wheat. I employed four persons to dibble the wheat in rows, twelve inches part, and to drop the seed, one in a hole, at six inches difference in rows; by this means it covered a space of sixty-four poles of land. All my neighbours endeavoured to persuade me that my experiment was a failure, more especially as the ungenial nature of the spring had so retarded vegetation, however, when we were enlivened by the warmth of the month of May, the alteration in its appearance was truly astonishing; it then became the common talk of the country. Suffice it to say, I harvested four one-horse cart loads of sheaves, which has just undergone the process of thrashing, and the produce is within a quart of sixteen bushels, each weighing sixty-one pounds. I lost a great many ears in consequence of the field being bounded on one side by the public road, Persons passing took the liberty of gathering them out of curiosity; still the weight of the whole crop is 8 cwt. 3 qrs. 24 lbs., an enormous produce from $3\frac{1}{2}$ lbs. of seed, each ounce producing 18 lbs. 3 oz.; a thing, as far as I know, unprecedented in the annals of agriculture." I am, Mr. Editor, yours, &c.,

A FRIEND TO GOOD FARMING.

Disse, Jan. 18th, 1838.

FEEDING PIGS ON APPLES.—A contemporary gives an account of a dinner of the Ebley Temperance Society and Mechanics' Institute, in that place, which was held expressly to test the quality of a pig that had been fattened upon apples. It seems that Thomas Neate, a tiler and plasterer, at Dudbridge, had read in some of the temperance publications that in America apples had been tried with great success in feeding pigs, sheep, &c.; he resolved therefore to try the experiment. How well the plan succeeded may be seen from the following

statement:—On the 12th of October, the pig was fed with apples, and was then between four and five score, and when it was killed, Dec. 26th, it weighed nine score, all but two pounds. On the 12th, it was exceedingly poor, so that every rib could be told. The first fortnight it was fed on apples and grains, and improved in flesh astonishingly; after that time, it was fed upon apples and bean-meal. During the time it was fattening, it consumed four bags of apples and two bushels of bean-meal. The apples and the meal cost twenty-six shillings, and the pig improved at the rate of about ten pounds a week. The apples were boiled, and as they required no washing, much trouble was saved; and further, as they were cooked as soon as the water boiled, three furnaces of apples could be dressed with the same quantity of fuel that had been necessary to boil one furnace of potatoes. The meat was of the richest flavour, and was allowed by all who partook of it to be the finest ever tasted. We understand that a farmer in the neighbourhood, who particularly watched the experiment, and was incredulous as to the result, felt as perfectly satisfied when he saw the pig cut up, and weighed, that he determined to use his own apples in feeding his pigs. It may be observed that the apples which Thomas Neate employed were an inferior sort, and such as would have made but little cider. We have been told since this occurrence, that a gentleman in Berkshire has tried the same plan on a great number of pigs, and found the same exceedingly profitable. A gentleman in America has declared that his orchard, when he made the apples into cider, paid him 300 dollars, but that when he fattened pigs with them he obtained 600 dollars, or *just double*.

NEW MATERIAL FOR ROAD-MAKING.—A good deal of interest has been recently excited by the proposed application of the substance called taspahic-mastic to the purposes of paving. In France it has been found to answer extremely well for paving and road-making, for covering in buildings as tiles, for arches of railways, and lining common shores. The mastic is a compound of two mineral substances—the one being the native asphalt of the Jura mountains, the other being bitumen, both being fused and prepared in certain proportions, and in that state, when used for paving, laid upon the ground, cleared for the purpose. Wood, put down hexagonally upon a solid bed, and fixed together with this mastic, would, it is said, make excellent roads; no dirt would rise, no rain penetrate; so that the more rain, the cleaner would be the streets. A pamphlet, entitled *Practical Observations, &c.*, by Mr. F. W. Simms, Civil Engineer, late of the Royal Observatory, contains accounts of several places in Paris, and elsewhere in France, where the footpaths are paved with this material, also in the Place Louis XV., and a conservatory at the Baron de Montmorenci's, laid with this substance, in what, in a certificate signed by Lords Elgin and Lincoln, and Sir John Hay, Bart., is described as a "beautiful mosaic." The stables of the cavalry barracks on the Quai d'Orsay are paved with the mastic, which after several years' use is found perfectly sound and uninjured, the horses' hoofs making no impression on it. It is understood that the arches it is about to be applied on are part of the Greenwich railway, with a view to preserve the arches of that extensive viaduct free from damp. Lord Duncannon also, as Commissioner of the Woods and Forests, has, it is understood, given up the road from Whitehall to Westminster-hall to be paved with this new material. Sir Robert Peel, in a letter, when in Paris, states that he had examined and greatly admired various places in that city which were paved with this mastic, of which the durability was such as to be unimpaired with the wear and tear of years.

TITHE COMMITTEE.—MR. DUGDALE moved, on Friday last, for a return of the number of tithe commutations which have been actually completed by apportionment thereof, up to the 31st day of December, 1837, arranged under the following heads:—1. Those in which the same person is the sole landowner, titheowner, and

patron; 2. Those in which the same person is the sole landowner and patron, but not the titheowner; 3. Those in which there is but one landowner, he being neither titheowner nor patron; 4. Those in which the landowners are two only, not being either titheowners or patrons; 5. Those in which the landowners are three only, not being either titheowners or patrons; 6. Those in which the landowners are more than three, not being titheowners or patrons; and under each head distinguishing in how many cases the titheowner is a layman, and in how many an ecclesiastic."—Agreed to.

PANEGYRIC ON THE HORSE.

His mighty powers in various ways conduce,
To man's convenience, pleasure, health, and use:
Patient he bears or draws the ponderous load;
Or swiftly skims along the distant road.
He meekly drags the share through stiffened clay;
Or proudly braves destructive war's array!
Bears pomp and state above the vulgar throng,
And drags at once, dull indolence along:
He yields submission to his puny lord,
Content with food and rest, a cheap reward.
Yet man ungratefully, too oft repays,
His faithful servant in his wither'd days:
Forestalls his youth, and, with insatiate rage,
Works out his prime to premature old age;
Wagers his strength, spurs on the panting steed,
To dreadful distance or unnatural speed,
His foaming nostrils and his sides with gore;
The streaming dew that burst from every pore;
His trembling limbs, and heaving chest declare,
How great his injuries and tortures are;
In race, or measur'd ground, where blockheads meet
To pride themselves because their horse is fleet;
Where sharper flocks to make the flats a prey,
And many a purse is conjured clear away;
Where Folly's children crowd to be amus'd,
By seeing nobler animals abused.

THE MERRY SLEIGH BELLS.

A CANADIAN SONG.

'Tis merry to hear at evening time,
By the blazing hearth, the sleigh-bells' chime;
And to know each bound of the steed brings nigher
The friend for whom we have heaped the fire.
Light leap our hearts, while the listening hound
Springs forth to hail him with bark and bound.

'Tis he! and blithely the gay bells sound,
As his sleigh glides over the frozen ground;
Hark! he has passed the dark pine-wood,
And skims like a bird o'er the ice bound flood;
Now he catches the gleam from the cabin door,
Which tells that his toilsome journey's o'er.

Our cabin is small, and coarse our cheer,
But Love has spread the banquet here;
And childhood springs to be caress'd
By our well-loved and welcome guest:
With a smiling brow his tale he tells,
While the urchins ring the merry sleigh-bells.

From the cedar-swamp the gaunt wolves howl,
From the hollow oak loud whoops the owl,
Scared by the crash of the falling tree;
But these sounds bring terror no more to me:
No longer I listen with boding fear,
The sleigh-bells' distant chime to hear.*

* The horses in the sleighs or carriages have small bells hung on the harness, the sound of which is cheering to the animal as well as to his master: in a frosty night sound is rapidly and extensively conveyed to an anxious and listening ear, and the tinkling of the distant sleigh-bells may well be thought musical.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT
FOR JANUARY.

The field labours of this month, which are always but few in number, have, as far as relates to ploughing, been much obstructed by frosts, since about the 8th of the month, but from their forwardness at the commencement of the month, are by no means in a backward state; whilst the weather has been very favourable for carting manure so that it has not required half the team strength to draw it out, or to carry the hay, corn, &c. to market; both dry and succulent food have been brought into pretty general consumption amongst all descriptions of stock, but the farmer and grazier, have been amply compensated both by a greatly increased quantity of manure for the arable part of his farm, and will derive great benefit from the frosts having broken the surface clods of fallows, and destroyed the insects; whilst the snow has had the effect of a slight coat of manure for it; besides its operating as a seasonable check upon vegetation, so as to prevent its becoming winter pround, and to be affected materially by any atmospheric inclemency in the early part of the Spring. There are, however, particular times, and seasons for all things, though it ever has and ever will be considered, as the best course in husbandry, and all other worldly vocations, to take time by the fore-lock. Hence, in our humble opinion, whenever the soil is sufficiently free of frosts, to have become fit for the reception of the plough, it ought to be forthwith worked either for the reception of seed, or to remain through the remainder of the winter in fallow; as repeated ploughings after frosts, brings the insects with couch and other noxious weeds, again to the surface, and exposes both for destruction, to the frost which succeeds; hence we conceive, the great utility of Vaux's revolving harrow; as it may, in our humble opinion, supersede frequently the necessity of a second fallow ploughing, it loosens as much soil in one bout with two horses, as a common plough with three horses would stir, or loosen in five bouts.

As relates to the complexion of the growing crops they are looking well considering the season; whilst live farm stock of every kind, is described as being satisfactorily healthy, and with the aid of a little fodder, most of the depastured part of it doing well.

The prices of farm produce, notwithstanding the strenuous exertions that have been made, on account of the frosts and of anticipations of a frozen up Thames and inland navigation, both in Smithfield, Mark Lane, and nearly all of our provincial corn and cattle, as well as in the London poultry, dairy produce, hop, and hay markets, in the whole though nothing drooping, have been, on taking a fair retrospective glance, through the month, little more than stationary; whilst in horses, milch cows, store pigs, suckling calves, and grazier's store stock, exceedingly little has been, in accordance with annual custom, doing.

The following observations, taken in substance, from a book entitled *The Mystery of Husbandry Discovered*, (dated 1675) may not be altogether uninteresting to the hop growing part of the agricultural community. "If, says the author, your hops be old or worn out, about the beginning of winter, remove from them as great a part of the old earth as you can, replacing it with a rich mould compost, applied to their roots; any time before the end of February, freeing the soil on which they are situated

of couch and other weeds; but where the bine is strong and healthy, hops should not be dressed till March, or even early in April. At the first dressing of young hops cut away such roots which grow the preceding year out of your sets. The roots that grow downward need not be cut, but those which grow out of the sides should, to prevent them from uselessly encumbering the soil. In planting hops, choose large and strong sets, of from eight to, not less than ten inches high, and plant in richly manured hills, in latter March, or early April."

A statement of the supplies and prices of fat stock in Smithfield Cattle Market since our last month's report. With respect to the supplies, they have consisted of 12,220 beasts; 125,023 sheep; 520 calves; and 1,220 pigs.

About 2,000 of the beasts, which were chiefly Scots, which have formed the above supplies, have come from Norfolk; 400 Scots and Herefords from Suffolk; 300 Scots, short-horns, and Herefords, from Essex; 270 Scots from Cambridgeshire; 600 short-horns from Lincolnshire; 700 short-horns from Leicestershire; 300 short-horns and Devons, from Northamptonshire; 125 Scots, by sea, from Scotland; 300 runts from Sussex; 170 Scots and Herefords from Surrey; 129 runts, Devons, Herefords, from Kent; 450 Devons from Devonshire; 700 Herefords from Herefordshire; 120 Staffords from Staffordshire; and 60 Somersets from Somersetshire. The remainder of the Bullock supply has been chiefly derived from the neighbourhood of the Metropolis.

The supplies of sheep have been chiefly composed of South Devons, old and new Leicesters, Dorsets, Somerset, Kents, Kentish half-breds, and polled Gloucesters.

The general quality of the beasts and sheep exhibited for sale in Smithfield, we have to state that it has been of fair average.

A statement and comparison of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market, on Monday, Jan. 20, 1837, and Monday, Jan. 29, 1838:—

At per 8lbs, sinking the offals.

	Jan. 30, 1837.		Jan. 29, 1838.	
	s.	d.	s.	d.
Coarse and inferior beasts	2	2 to 2	4..2	2 to 2
Second quality do.....	2	8	3	2..2
Prime large oxen.....	3	6	3	10..3
Prime Scots, &c.....	4	2	4	4..4
Coarse and inferior sheep	2	10	3	0..3
Second quality do.....	3	6	3	10..3
Prime coarse-woolled do.....	4	6	4	10..3
Prime South Down do	5	2	5	6..4
Large coarse calves	4	4	4	10..4
Prime small do.....	5	2	5	2..5
Large hogs.....	3	6	4	0..3
Neat small porkers.....	4	6	4	10..4

SUPPLIES.

	Jan. 30, 1837.	Jan. 29, 1838.
Beasts.....	2,495	2,917
Sheep	25,300	26,900
Calves	110	130
Pigs	195	580

By the above comparison it appears that the supply of Monday, Jan. 30, 1837, embraced 422 beasts, 1,600 sheep, 20 calves, and 385 pigs less than that of Monday, Jan. 29, 1838.

There have arrived, from different quarters, up to Newgate and Leadenhall markets, during the month, about 900 carcasses of beef, 12,000 ditto of mutton, 13,000 of veal, and 9,000 ditto of pork.

DURHAM.

The month of December, and the first week of January was unusually favourable and mild for the season, and had not vegetation had a seasonable check turnips would soon have run to top, and would have lost their fattening properties; the young wheats were looking very healthy and luxuriant, notwithstanding the seed remaining so long in the ground. During the last fortnight the weather has been extremely severe, and frost most intense, with a very heavy and deep cover of snow. Sheep and every other stock are to hand-feed. The thrashing-mill has now become in full operation, and farmers are all finding the yield miserably deficient, both as regards quantity and quality, we never remember seeing samples so poor and out of condition, and we fear that some months will elapse before it gets a handle, as corn of all kinds was so full of aftergrowths, that it required an unusual time of field-room before it was fit to carry, consequently stacks heated, which always prevents the drying winds from penetrating them. We have had an exceedingly limited supply of wheat in our markets since harvest, and all our country markets are looking upwards, and unless we have a large foreign supply, we should suppose wheat will be much wanted before another crop. With regard to the oat crop, farmers are also complaining of the yield, and samples rough and tailie; should this severe weather continue, it will cause great consumption in this article; dry samples have been in demand at an advance in price, but samples out of condition are quite neglected. Our fat stock markets have rather given way, the supply being greater than the demand; beef from 5s. 6d. to 6s. 3d. per stone, mutton 6d. per lb.; stock have left very little for turningip, they were bought in at such exorbitant high prices; we are apprehensive the farmers' profits will not be so large this year (we mean up to May-day.) Our labourers have full employment at good wages, they live in a very comfortable way; we hire them by the year, at from 12s. to 13s. per week, house, fire, and potatoes, garden, and other perquisites, amounting to about 15s. per week, they also feed a pig, which is considerably more than the south country labourer has to live upon, and we think it is much better to give them more for their labour and pay less in poor rate; besides half-fed labourers cannot do a sufficient day's work; we cannot conceive how a man with a family can exist upon 9s. per week, and in many of the southern counties they have no more. There are a good many inquirers after wool, and it is fully expected that as the spring puts in, there will be a brisk trade for this article, the stocks in hand are small and bad in quality, and when made up will not bear the test of wear, owing to the extreme poverty of sheep last winter. The season has been extraordinarily fine for sheep on turnips, and they have improved both in mutton and wool, but there has been great losses upon light sandy soils, letting them have their liberty on a grass field is a preventive. Ploughing is in a state of great forwardness, and now the weather is most favourable for carting out dung, &c.—Jan. 20.

MONTROSE.

We have delayed giving our annual report of the crop, that we might be able to state with greater accuracy how it was turning out from the stacks; but as most of the thrashing-mills are driven by water, and as the weather was unusually fine and dry till the middle of last month, comparatively little was thrashed—much less than we ever knew at the same period of the season—as the farmers did not require the straw, and were dissatisfied with the prices. Of wheat and oats the bakers and millers have with difficulty got the supplies required, and of barley we never knew so little brought to market. Of wheat from the different mode of cropping, we now grow much less in this quarter, and, from the wetness of last season, a good deal of the land intended for it was never sown. It is a deficient yield per acre, and the quality very various, running from 54 to 62lbs. per bushel. There was little old left, and as there has been no importation since harvest from England, the new growth, as well as the consumers' stocks, must be pretty well exhausted, so that large importations will be

required during the spring and summer months. Of barley, the breadth was greater than usual (the land intended for wheat being sown with it), but the yield per acre is proving much more deficient than was expected even a few weeks ago, and it must be rated far under an average, say from a fourth to a third. The weights vary from 48 to 54lbs. per bushel, but little of either extreme to be got, the great bulk being from 51 to 52lbs. Bere or bigg, is better in proportion, weighing from 48 to 50 lbs. per bushel. Oats had a luxuriant appearance on the ground, but are yielding so ill from the straw that they will be under an average. This applies to the great oat districts of the country. The colour and condition are good, and the weights of potato and Hopetoun from 41 to 43lbs.; of Angus, from 38 to 42lbs. Shipments of the former will run about 42lbs., of the latter 41lbs. per bushel; but a little heavier might be picked for seed. Beans and peas (mixed) and peas are fair crops, and the quality good; but as we have had no deliveries yet, we cannot state the weights. The potatoe crop is under the average growth, but the quality excellent. We did not hear of a single failure of the seed last season. Turnips on dry land are a good crop, but deficient on wet soils. Hay was a light crop, and less than usual made, as the very late spring forced many to turn their cattle on to the grass intended for it. It is selling at nearly the same price as the same weight of oats—1s. 3d. for 20lbs., a very uncommon thing in this quarter. Many of our farmers are now able to hold, when the prices do not please them, and are doing so at present, expecting that the deficiency of the crop must soon have an effect. We subjoin the present rates free on board. Wheat, none for shipment; barley, 53lbs. per bushel, 28s. 6d.; ditto, 52lbs., 27s.; ditto, 51lbs., 26s.; potatoe oats, 42lbs., 22s.; Angus, ditto, 41lbs., 21s.; beans and peas, 30s. per quarter, free on board.—Jan. 15.

CUMBERLAND.

With the exception of two very rainy days, the 24th December and the 3d of January, the weather since the 22d December continued mild and fine till the commencement of frost on the 5th January, so much so, indeed, that grass-land in good order, and in low situations, kept growing with little interruption, and turnips showed a disposition to throw out a fresh top; the plough also, from the absolute want of other employment from the droughts caused by the fine season, had begun in several places to turn up the land for oats; which was never known to be so early in this country. But now that winter has at last come, it seems inclined to pay us with interest for its long delay. The severe weather we have had began with a slight frost, which kept gradually increasing till it became extremely intense; and, although snow fell for several days together, yet it was so trifling as not to cover the young wheat plants, which must have suffered, especially on wet land. Turnips also will be seriously injured by their exposure, the extent of which will not be perceived before the frost has fairly gone, when the rapid decay of the more early kinds, and many of the hardier species may be calculated upon with certainty, as well as those injured by birds; the most destructive of which is the wild pigeon, this bird in incredible numbers alighting upon a turnip-field dig holes with their bills in the root, the consequence of which is certain decay; the rook is busy in the same way, and when we add to these injuries they receive from game, the speed with which they disappear after a severe frost when unprotected by snow does not appear wonderful; even those that are stored and well covered with straw, have become so hard that they must be broken when given to cattle, and this is not effected without great difficulty; sheep are doing badly upon those in the field, from the impossibility of eating them, which makes it necessary to give hay where it can be had, and straw where it cannot. The carting of manure has been incessant since the beginning of the frost. To-day the wind is in the south, and there is every prospect of a thaw. During the autumn and winter we have had fewer fogs and high winds than for some years past,

those that have visited us scarcely deserving the name. All kinds of food for stock is abundant. The demand for the best wheat is good, and the price little if any lower, the change of weather has not as yet made any material difference in its condition, and the great majority of samples continue damp, the quantity offered for sale is still below an average for this season of the year. Oats and barley have been dull, and the prices lower. Fat has improved in price, but the demand seems sluggish. In store cattle and sheep there is nothing doing at present. Pork, 5s. 6d. to 5s. 9d. per stone of 14lb.; small pigs, eight weeks old, 14s. to 17s.—Jan. 22.

BEDFORDSHIRE.

We have just passed another of those points of duration, when this globe of ours completes its annual revolution round our orb of day, and which ends our circling year; and it must be universally admitted, that the closing weeks of the year 1837, have been mild and calm almost without a precedent. Stern winter, however, has at length set in, and while he has covered our waters with his icy hand, he has painted our fields with the most delicate whiteness; nor does he seem at all sparing of his materials, but he is bespattering on in right good earnest. This we hardly need say is highly seasonable, and though in the general prosecution of business, deep snows for the time being seem inconvenient and troublesome, yet this part of the country never appeared to be better prepared for one. We allude particularly to the shortness of water, for while we have heard of torrents of rain and sweeping floods in the northern parts of the kingdom, the rains have fallen so light here, that we have scarcely got enough to keep our mills in motion, and as to the springs generally, the oldest man scarcely recollects them so low as at the present time. The winter ploughings are also almost everywhere completed, and frost was greatly wanted to enable our farmers to get forward the carting of manures, road materials, &c. Besides which, the very latest sown wheat and tares have all shown themselves, and but for the timely frost vegetation would shortly have made the most unseasonable efforts. The season hitherto has been for the most part very favourable for stock, whether in the pastures or in the turnip fields, and where the crop of turnips is good a large weight of mutton will this year be produced (of course this must somewhat depend upon the coming quarter); so far, however, under good management, things have gone on well. The price of wool has improved since our last, but nearly all other agricultural produce has been a dull sale, particularly barley. In this article, the farmers will this year have a very serious falling off in their income; barley is making less money in fact, than for many years past; and for our own part, we do not at all expect any improvement so long as the iniquitous malt tax is continued, (always excepting, however, a time of great scarcity), and we are sorry to see so great a falling off in the revenue; or otherwise we had indulged in the hope, that if the result of Mr. Rudkin's machine should prove as profitable to the revenue as has been represented, that there would have been an effort made this session to have got rid of this most unequal and galling impost. Till this is effected (whatever party be in power), we shall never consider that the farming and working classes, are receiving justice at the hands of the legislature. We would be the last, however, to indulge in the general language of complaint. Much certainly has been effected by the Poor Law Amendment Bill, not only in a pecuniary point of view, but also in restoring the British peasantry to frugal, honest, and industrious habits. In fact, when we contemplate the benefits which this measure has effected in our rural districts, and in so short a space of time, we feel the most agreeable astonishment, and we cannot but regard the efforts which are making by certain parties in parliament and out of it to excite the populace against the measure, but as a base attempt to carry favour with a vile democracy at the expense of all that's valuable to the country.—Jan. 11.

YORKSHIRE.

The new year was ushered in by a continuance of the mild and spring-like weather which prevailed during the two preceding months, and for the first week vegetation began to exhibit signs of re-animation; and the sunny days, and singing of the feathered choristers, reminded us of the exciting geniality of spring. On the 8th, however, a change took place, and snow began to fall, but melted as it came, until keen frosts set in, the snow continuing to fall, exhibiting every appearance of a serious storm; the snow being from one to two feet in depth. With the exception of a partial thaw on the 22nd and 23rd, which lessened the snow, the severity continues unabated at this period. Such being the state of the weather, the remarks of the agricultural reporter can neither be onerous nor interesting to his readers. The principal employments of the farmer are threshing out his corn, carting his manure, and cutting and repairing his fences. Every crop is happily covered with snow, or the frosts would be ruinous. Barley is being pushed into market in considerable quantities, and the demand for straw, to be used as fodder, compels the thrasher or machine, as the case may be, to be kept in active exercise. All accounts concur in attesting to the truth of the assertion made some months ago, that the yield of barley is much inferior to that of last year, and *considerably below an average*. This fact is very important both to the maltster and farmer, at this period of the year, when the finest samples are brought out, and when all characters of grain are tried by the test of weight, and quality, as well as quantity. More disposition is evidently evinced by the buyers to take up prime samples, and though grinding and distilling qualities are in extensive supply they are readily taken off, but the prices are tremendously low. Straw is greedily taken up by the stock, and eked out much more sparingly than it was last season. We have not forgotten our wintry March of last year. The horses are unemployed in ploughing and consequently the manure carts are in full exercise. One of the advantages of early carting it to the mixen is, that by proper turning it gets thoroughly fermented before the drought of May sets in, at which period it is often arrested for want of the necessary moisture. Whatever theory may say in favour of Sir H. Davy's recommendation, practice scouts it too decidedly, even to be gainsaid. No man in his senses would risk his turnip crop by manuring it with unfermented dung. Hedge cutting has become harmless work compared with what it used to be. Scientific farming decides that the freer the circulation of air the better are the prospects of the crop, and consequently the hedges surrounding the arable fields are kept as low as possible consistent with the security of the fence. Hence they merely require "splashing" or the outermost twigs taking off for several years. Dead fences are becoming equally uncommon with open ditches, and thus the annual repairing, which dead fences require, is saved. Turnips have been so frozen as to render them almost impervious by the stock, and the turnip cutter has been called into requisition. The snow rendered the turnips difficult of access, and the trouble of attending the stock has been considerably increased. Some farmers supply them with hay, and even corn, during the continuance of the storm, which is far from being a bad practice. Housed stock, which were not provided with a large supply previous to the setting in of the storm, have had their food changed, for it was almost impossible to come at the turnips, and even those, ever so well preserved, are so frosted as to require slicing or bruising with a mallet. The

partial thaw of the 22nd has saturated the ground with water, and the severe frost of the night of the 23rd acted severely upon the turnips and many must necessarily be rotted. The best turnips being the largest suffer most under such circumstances, and it is possible that this outcry of an excessive crop of turnips may end in an absolute want. Markets for corn are all on the rise, for stock on the decline. Wheat, 7s. per bushel, barley, 29s., oats 20s. per qr., are the prevailing prices. Beef, 6s. 9d. per stone, mutton, 5½d. per lb.—*Jan. 25.*

NOTTINGHAMSHIRE AND DERBYSHIRE.

Two months having now elapsed since I have been able to forward to you any communications in reference to agricultural pursuits, they must now, of course, considering the versatile state of the weather since my last report, be somewhat interesting. The old year terminated its career under the most favourable auspices, bearing the most striking resemblance to spring, and seemed, (if possible) to compensate for the severity of its commencement. While the new year (or present month) seems somewhat allied, in its severity, to the commencement of the year that has now already taken its flight. The open state of the weather at the termination of the last year, allowed the farmer to keep a considerable part of his stock abroad, which very much reduced his turfs, so that upon an average the ground is stripped of its summer's verdure. Since the beginning of the month our flocks have been but indifferently provided for, the ground being covered with snow, so that they have required a great deal of attention, corn, and other varieties of artificial food constituting their chief support; as regards other descriptions of cattle they are well and plentifully supplied with food; the congeniality of the autumnal months, together with the mild and unprecedented favourable weather which characterised the commencement of the winter, scarcely gave a demand upon either the hay or straw ricks, which till the severity of the present severe weather, presented an almost entire appearance. Store cattle are much sought after, and are selling at high prices. Fat stock is difficult of disposal at remunerating prices, beef varying from 5s. 6d. to 6s. 3d per stone, mutton, 5d. to 6d. per lb. Our corn markets are a little on the advance, not so much from any existing scarcity, as from the intelligence conveyed from Mark Lane, and all internal water conveyance being cut off arising from the severity of the weather, prices being as follows:—New wheat from 56s. to 60s., old from 60s. to 64s. per qr. Barley from 28s. to 33s. per qr. Oats from 20s. to 26s. per qr., or the average prices for oats 11d. per stone. The vast number of horses employed at the various railroads have a tendency to keep up the price of hay, which from the previous mild state of the weather must have fallen considerably, prices at present varying from 5l. to 6l. per ton, and some few superior qualities as high as 6l. 10s. per ton. Agricultural labourer's wages are from 10s. to 12s. per week, varying according to localities. Sheep stealing has become very prevalent in the two counties, particularly in the vicinity of the various lines of railroads, and though enormous rewards have been, and still are, offered, none of the perpetrators have as yet been brought to justice, and whether it be the brutes employed at the railroads, or some other persons under their garb of villany, I am not able to determine, but it is much to be desired that they were brought to receive the reward of the deeds done on the body.—*Jan. 24.*

ON THE CULTURE OF CELERY.—I sowed seed immediately in a slight hot bed, on a rich light, and fresh sandy loam, from an old pasture. The bed was well attended with water, and the plants came up quickly. When they were about two inches high, I began to think of giving them their final transplanting. I found an old melon pit, that had been a long time out of use, in consequence of new ones having been erected in more modern style. I filled the old pit with all the cabbage stalks I could find in the garden, then going to bloom; these were regularly packed into the pit, with a good quantity of short grass, from the pleasure ground, laid over them, and over that, a layer of rotten leaves, from a neighbouring plantation. I then spread some rotten dung, and over all, about four or five inches of very good earth. When the bed had settled, and the violent heat was over, I put out the stoutest plants I could find, from the thinnest part of the seed bed, at twelve inches between each row, and about six inches, plant from plant. Here they were also well attended with water, weeding and hoeing. They got two or three light landings with earth, and, after that, they were finished off with coal-ashes, as there happened to be plenty of it convenient. It is necessary to observe, that, in landing celery, planted so close together, it is proper to have two boards laid between the celery, one close to each row, the earth or coal ashes, or turf-mould, is then thrown in between the boards. The boards are then gently raised, and placed again between other rows, till all are finished. The use of the boards, is, to prevent the earth getting to the heart of the plants. I believe there is nothing new in growing celery in close rows; but I am almost certain, there is something new in my method of doing the work—for on the 15th day of August, I had fourteen dozen of as fine celery as any one could wish to see—well blanched and fit for the table, without mark of worm or slug. This was exactly three months from the day the seed was sown. I may be told that such treatment would be likely to make the plants start, or run to seed prematurely. My answer is, no such thing happened to my celery—although I did fear such a result. I am inclined to think, that in addition to the genial heat they derived from the decaying vegetables beneath, they also received a nutritious effluvia (if I may term it so) that nourished both root and top. This plan may be objected to, as troublesome and expensive, but it should be recollected, that if fourteen dozen of plants were planted in a trench, they would require more trouble in bringing them to perfection; and as to the materials that composed the bed, they might as well be performing a useful office, in growing the celery, as lying for weeks or months together, unsightly in appearance, and offensive in smell. With respect to a melon pit, it is not every place that they can be spared for the above purpose; but it is very easy for any person to imitate one, by making a pit in the ground. There might be stakes put round the sides, and worked like wicker-work; or a bank of sods would, in my opinion, be much better, as it would keep in the heat.—*By James Macklin.*

STEAM PLOUGH.—A correspondent of the *Philadelphia United States Gazette*, writing from Harrisburg, says—"I learned from a friend yesterday, that Mr. Campbell, the engineer of Philadelphia, has invented a plough and a harrow, which may be effectively and most profitably worked by steam. A gentleman of the west has expressed his belief that the former will plough 250 acres a day. If this is the case, the wilderness of our great prairies will be made to blossom like the rose."

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

CRICKLADE.—Our market on Tuesday the 16th inst. was extremely well supplied with beef and mutton, and was numerously attended by butchers and dealers. There was also a good supply of graziers and springers, and notwithstanding the flatness of the markets generally elsewhere, a great deal of business was done, and nearly everything sold. This being the day appointed for presenting the successful candidates with the premiums awarded at the Christmas Fair, the Committee of Management dined with a large party at the White Horse Inn, and after the removal of the cloth, the chairman, Thomas Taylor, Esq., presented the following gentlemen with the several premiums, with suitable addresses, viz.:—

	£.	s.	d.
To Mr. Day, of Dudgrove, for the best fat Ox	5	0	0
To Mr. Jordan, of Cricklade, for the second best Ox	3	0	0
To Mr. Handy, of Even Swindon, for the best fat Cow	5	0	0
To Mr. Blandford, of Widhill, for the second best Cow	3	0	0
To Mr. J. Slater, of Leigh, for the best Bull	2	0	0
To Mr. Blandford, for the second best Bull	2	0	0
To Mr. Brown, of Uffcott, for the best 10 fat wether Sheep	3	0	0
To Mr. Saunders, of Ashton Keynes, for the second best ditto	2	0	0
To Mr. Slatter, of Cricklade, for the best fat Pig	1	0	0

The chairman afterwards gave a very flattering exposition of the progress of the market since its commencement in February last, from which, it is evident, that notwithstanding the misrepresentations of some jealous neighbours, Cricklade market is firmly established, and will prove decidedly superior for business. The total number of beasts brought to the market during the year, "without exaggeration," is—beasts, 3523; do. of sheep, 7527; do. of pigs, 1984; averaging for each market—293 beasts, 687 sheep, and 165 Pigs. John Neeld, Esq., M.P., honoured the committee and dinner party with his company, and gave a second liberal donation of 10*l.* to the support of the market.

FARMERS WHAT THINK YOU?—At a sale of the valuable stock of Mr. Robert Fowler, at Little Rollright, in the county of Oxford, in the year 17—, when it was supposed about 5,000 persons attended, and many from distant counties, the following prices were fetched:—

A Bull called Garrick, three years old	505 Guineas.
Ditto Sultan, two years old	210
Ditto Washington, two ditto	205
Ditto, one ditto	150
Ditto, one ditto	180
Two ditto, one ditto each	200—1450
Cow called Brinald Beauty, in calf	260
Ditto Washington's Mother, in calf	185
Ditto Garrick's Sister, in calf	115
Ditto Long-horned Nell, in calf	105
Ditto Young Nell	120
Ditto Spotted Nancy	88
Ditto	73
A Black Heifer, three years old	135
Heifer, Young Brindled Beauty, two yrs. old	63
Ditto	85
A calf, four months old	30—2709

A respectable correspondent writes to us, that upon rummaging through a bundle of old papers, which he had purchased at a sale not long ago, he discovered the above memoranda.—*Westmorland Gazette.*

BANWELL FAIR.—This large fair falling on a Thursday, which day being Bristol and Bridgewater markets, was not so fully attended as usual, nor were the beasts of that description as heretofore we have been

accustomed to notice. Those that were prime, sold freely, and kept up their prices, whilst inferior went away without exchanging owners.

GRAMPOUND FAIR was rather scantily supplied with fat bullocks, which sold at from 50*s.* to 52*s.* 6*d.* Of fat sheep the supply was tolerably good, and the price about 6*d.* per lb. Store cattle were rather scarce, and the best were disposed of at fair prices.

NOTTINGHAM FAIR.—This cattle fair, was held on Friday se'nnight, but as far as horses were concerned, the greater part of the business was transacted on the Wednesday and Thursday. There appeared to be a good demand for superior ones, of which, however, there were but very few. Of cattle, the supply was plentiful, high prices were asked, and but little business was done, owing to the want of money. Fat beasts fetched 6*s.* per stone; in-calves and store beast were more in request, but the severity of the weather appearing likely to continue, fears were expressed of fodder becoming scarce, which operated much to the prejudice of the owners, but few being disposed of.

EXTRAORDINARY FREAK OF NATURE.—A fine grown dog was exhibited at the White Horse Cellar, Newbury, on Thursday last, covered with a most extraordinary growth of wool, which resembles the fleece of a sheep, it is of four years growth, and lays on the dog in flakes of great weight; the proprietor has been offered a considerable sum for the animal, which he refuses to take.—*Reading Mercury.*

ON GRINDING FOREIGN WHEAT IN BOND.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR:—I have observed in your Journal several letters from your correspondents respecting the grinding of foreign wheat, advocating the measure with the need that it would give employment to labourers, now was there ever a greater attempt to blink a measure than this? I think not. Why the real object is to give the corn merchants and millers, resident in the sea-ports, an opportunity of working up wheat duty free, to the prejudice of the native grower, for as to prevent some of it being sold is next to impossible; as to returning the flour into the warehouse, made from the wheat taken out, or of equal quality, no man could be so foolish as to think that the holders of grain would ever incur the expenses of removal from warehouse to the mill; the charge for casks to pack the flour, returning it again to warehouse, with the attendance on the officers of customs, giving bond, &c., &c. The thing is altogether unreasonable to be entertained by any man acquainted with great business.

That it would inflict a great injury on the growers of corn there can be no doubt, for in whatever way an additional quantity is brought into market it tends to lower prices, for supply and demand is the grand regulator of price; as one instance among a thousand, only look back to November, 1836, barley was then about 38*s.* per qr., rather above the usual average of late years, because the supply was not quite equal to the demand, the consequence was, a quantity of foreign barley was brought forward, which together with our own growth glutted the market, and down went the price as a matter of course.

It is, therefore, my opinion, that the boon asked,

that is, the grinding of foreign corn, ought not to be granted, for it will be no general benefit, but inflict an injury on the growers of corn, and all dependant on them because it will lessen their employment; look at the employment given to labourers now wheat is selling at a fair price, in comparison to the time when prices were so much lower; why at this time I really do not know one industrious man out of work, indeed there is a desire to find them employment.

I was much pleased with the letter of your "Hampshire Agriculturist" on the subject of increased labour, it is, I am sure, from the pen of one well acquainted with the subject on which he writes.

I must conclude with a wish that our legislators will never suffer the agriculture of this country to be injured, by giving way to the wishes of speculators, who look down on we cultivators as men who merit little attention, and who know but little, but about our sheep and oxen.—I am, Sir, your well wisher.

G.

North Hants, Jan. 23.

P.S.—The turnips appear to be severely injured by the late frost, I am apprehensive that there will be a general rot with all except the Swedes; and I know not what to think of them, for they feel rather soft this afternoon; so severe a frost I never before observed; my thermometer was 40 below zero on the morning of the 20th inst.

HOP DUTIES.

TO THE EDITOR OF THE SUSSEX AGRICULTURAL EXPRESS.

SIR,—I was at the Hawkhurst meeting last week and acceded to the views of those who believe that our situation as hop growers could not be bettered by any

alteration in the duties. When we are aware that 58,000 acres of hops were grown last year and the average crop was 6 cwt. per acre, and that the average price per cwt. was only 4*l.*, and the cost per acre for cultivation is computed at 25*l.*, to which is added 12*l.* further for duty, picking, selling, &c., I believe many of your readers will concur with me that we must look for some other remedy than what can be given by legislative enactment. It is calculated that the hop growers lost upon their crop in England for 1837, the large amount of 754,000*l.* To me there appears no other remedy except that of grubbing up some of the plantations, for we now grow more than we can consume, and if next year the plantations are reduced to 40,000 acres, the farmers will have a positive proof, that our inconveniences spring from a cause far different from that of either the old or new duty.

A SMALL HOP GROWER.

Wadhurst, January 16th, 1838.

PRICE OF HOPS.

BORO', JAN. 29.

We have no alteration whatever in the Hop trade since this day week. The coasting traders not being able to leave in consequence of the severity of the weather, has subjected many parties to considerable inconvenience by non-arrival of Hops so long ordered.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent Pockets, from.....	4 4	to 4 15	superfine.. 5 12
Bags	4 0	4 10	5 5
Mid Kent Pockets.....	3 15	4 10	5 5
Bags	3 15	4 4	5 0
Weald of Kent Pockets.....	3 10	4 2	4 10
Sussex do.....	3 3	3 15	4 4
Yearlings.....	2 2	3 3	3 10
Old.....	1 10	1 15	2 10
Old olds.....	0 18	1 5	1 10

REVIEW OF THE CORN TRADE

DURING THE MONTH OF JANUARY.

As the year revolves to revert to the successful issue of any branch of commerce is a pleasing duty, affording as it does a satisfactory proof of the health and prosperity which must have attended the various operations in detail of the particular traffic, and though only perhaps forming a small part of the grand mercantile machinery of the country, tends to strengthen its individual interest in the state; how much more therefore must the welfare of the agriculturists, who have so large a stake at risk in the commercial world, and the success of whose venture has so important an influence on the general weal, form the source of the happiest congratulation to all classes? In exemplification of the favourable result of 1837 to the farmer, we refer with considerable satisfaction to the annexed tabular account of the average value of wheat, as indicative of the improved aspect of agricultural affairs; not only do we observe that the annual aggregate average is 7*s.* per qr. higher than last year, and 16*s.* per qr. above

the average of 1835, but in marking the fluctuations calculated from the lowest average prices, a much greater steadiness is observed as having prevailed during 1837 in the prices of the leading article than any of the seven years notified excepting 1833; and as the current value of the staple commodity more or less regulates all other descriptions of agricultural produce, as well as the other necessities of life, it becomes a pretty certain index of the improved condition of the farmers. The extreme range of the *maximum* and *minimum* points in 1836 are truly remarkable, a the difference of 70½ per cent. was caused from purely accidental circumstances, and over which no previous calculations could have had any controul, the rapid and extreme advance of prices having occurred at a period when our granaries had been newly replenished with the produce of an average crop, proving to conviction the injurious effects of speculation as the means of disorganizing all regular course of trade, when

based wholly on prospective and hypothetical opinions. Notwithstanding that nearly 232,700 qrs. of foreign wheat and 36,000 cwt. of foreign flour were entered for the home consumption during the past year, having paid the highest range of duty at which foreign corn was ever introduced on the market, say from 28s. 8d. to 30s. 8d., and a portion at 31s. to 33s. 8d., yet the corn having been relieved from bond more by a speculative than a necessitous expedient, the depression of the home growth was not material nor of long duration.

The following table exhibits the average price of Wheat in England and Wales for the last seven years, from 1831 to 1837, both inclusive, together with the highest and lowest average prices in those years, showing also the rate of fluctuation per cent. calculated on the lowest price.

Years.	Annual average of Wheat.		Highest price.	Lowest price.	Rate of fluctuation calculated on the lowest price.
	s.	d.	s.	d.	
1831	66	4	75	1	59 2
1832	58	8	63	7	52 4
1833	52	11	56	5	49 2
1834	46	2	49	6	40 6
1835	39	4	43	6	36 0
1836	48	9	61	9	36 0
1837	55	10	60	1	51 0
					27 per cent.

Annual average price of Wheat, Barley, Oats, Beans and Peas, during the same period :—

	Wheat.		Barley.		Oats.		Beans.		Peas.	
	Qrs.		Qrs.		Qrs.		Qrs.		Qrs.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1831 ..	66	4	38	0	25	4	39	10	41	11
1832 ..	58	8	33	1	20	5	36	5	37	0
1833 ..	52	11	27	6	18	5	35	1	37	0
1834 ..	46	2	29	0	20	11	36	7	33	0
1835 ..	39	4	29	11	22	0	30	0	30	3
1836 ..	48	9	33	2	23	1	38	4	37	5
1137 ..	55	10	30	4	23	1	38	7	37	5

The annexed quarterly average prices of Grain in England and Wales, published officially to facilitate the operations of the Tithe Commutation Act, may therefore prove serviceable as reference.

Quarterly averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Lady-day Quarter.	57 2	33 9	23 7	38 9	38 10	37 8
Midsummer, do....	55 7	29 6	23 11	34 10	37 7	33 9
Michaelmas, do....	57 7	28 5	23 9	35 5	40 5	38 4
Christmas, do....	52 11	29 10	21 3	30 0	36 6	35 1
Average of the four quarters.....	55 9½	30 4½	23 1½	34 9	38 7	37 5½

The following is a return stating the average price of British wheat, barley, and oats per qr. during the seven years ending on the Thursday next before Christmas day, viz., the 21st Dec., 1837, computed from the weekly average returns pursuant to the Act for the Commutation of Tithes in England and Wales.

Wheat.	Barley.	Oats.
qrs.	qrs.	qrs.
52s. 6d.	31s. 6d.	21s. 10d.

In the earlier part of the month the more distant country markets were dull and languid, and the

samples of wheat coming to hand much affected by the weather, rendered millers extremely cautious purchasers even at a reduction of 1s. to 2s. per qr.; and at Liverpool the depreciation in new Irish qualities was 3d. to 4d. per 70lbs.; even at many places the finer wheats slightly participated in the decline. But in the home counties, especially Essex, limited supplies, and a demand for shipment, partly to the West and North of England, and partly to Scotland, kept the markets in an excited state, and an enhancement of 1s. to 2s. ensued, the top range being *actually* higher than in Mark Lane. These temporary shipments, however, were selected parcels of quality and condition, in order to mix with the more inferior produce of these different parts of the kingdom, and thus a momentary impetus was given to the prices. In Scotland the supplies became rather more liberal, and wheat at Edinburgh and other leading markets was noted 1s. to 2s. cheaper. Barley also 1s. to 1s. 6d. per qr. cheaper; but the finer qualities of oats maintained their previous quotations, while the green and inferior were difficult of sale at depressed rates. Many of the shippers from the Northern ports complained of the prices obtained in Mark Lane for their shipments, which made them scrupulous in sending farther consignments until some re-action was visible in the trade; however, the principal cause of depreciation had arisen from the bad condition in which many of the cargoes came to hand. We find also that disappointment still attends the thrashing out of new wheat, barley, and oats, on every variety of soil, and in almost every district of Scotland, and that on the retentive soils, and those under the highest cultivation, that the produce per acre has been most unsatisfactory, and which is attributed to the rapidity of the vegetation which took place in the month of July, which caused an unusual length of straw and the heavy rains towards the end of that month laid the crops so generally, that at the period of harvest by far the greater part of those that were at one period most promising were completely levelled, and a deficiency has in consequence ensued both in quantity and quality. In Ireland the wheat trade has remained dull, and selected parcels alone remaining firm in price. Good shipping qualities of oats were in moderate request at former prices, but as much of the supply at several markets was of secondary and inferior quality, difficulty at first was experienced in maintaining prices, but since then, holders have been demanding higher prices.

The unprecedented rapidity of the change in the weather from the genial mildness of spring to the intense severity of winter, from a thermometer at 55 one week, and the quicksilver standing another at 14 in the morning, and in the northern suburbs at 11, or 21 degrees Fahrenheit below freezing, has created not only a material alteration in the aspect of the country, but likewise in the markets; and has caused the trade generally to assume a more decided

character of improvement earlier in the season than could have been anticipated. The leading country markets are fully 2s. to 3s. dearer for wheat, and Summer corn 1s. higher; with a tendency on the part of the farmers to hold at the improvement. In Scotland, the transition in the weather has been equally remarkable. The first week of the New Year we hear of peas in bloom, the *Whin* bushes, or *Furze*, in blossom, and butterflies sporting their gay wings even in the northern districts of the kingdom, and now snow is covering the ground, and Nature frozen up. The farmers, convinced of the deficiency in the acreable produce of wheat, are now demanding higher rates, and the article must be noted fully 1s. per qr. dearer, with little disposition to quit their stocks of new, those of old being exhausted. Inferior barley does not however recover its depression; but oats are still held back by the farmers, who aware of the exhausted state of the old stocks, and the new produce by no means superabundant, are not disposed to accept the low offers now current, and therefore consumers at the *Northern* ports are in instances entering into purchases of Irish oats free on board; presenting an entirely new feature in the trade, as the imports from the *Sister Kingdom* have hitherto been confined to the *Western* portion of Scotland. In Ireland Nature has also clothed herself in Winter's garb, and wheat generally held at advanced prices, which was likely however to have ensued from the improved appearance of the Scotch and English markets. Oats are firm with a tendency on the part of holders to demand still further advanced terms for shipment.

In Mark Lane the supplies during the first fortnight of January were limited and latterly the canal and river communication having been stopped by frost, no addition has been received to the previous stocks. Fine selected parcels of wheat have been in request and gradually advancing, and now that the necessitous purchasers are obliged to have recourse to granaried samples to meet their consumptive demand, they have been obliged to accede to still higher rates, making the currencies 4s. to 5s. dearer than at the commencement of the month; but the enhancement has been caused entirely from the state of the weather, and are dependent on the same cause.

The advices from the United States proving less favourable for the sale of wheat, has checked the demand for bonded, and latterly the frost has prevented shipment; prices, therefore, have become more nominal, though holders remain firm at the previous rates; lower Baltic red wheat being noted at 30s. to 35s., and high mixed Danzig 38s. to 40s. Millers, owing to the improvement in the value of wheat, have been afforded the opportunity of advancing their demands for flour, and town made qualities have latterly realized 52s. to 53s., making the nominal price 55s. Ship flour has of late experienced a brisk sale at increasing prices, and the best country marks have been obtaining 45s. to 47s.

The supplies of barley as long as the navigation

of the Thames was open, proved liberal, but factors were enabled to maintain the previous quotations, though the trade ruled dull, especially for malting descriptions, owing to the heavy sale of malt. Distillers who had been previously free buyers bought rather sparingly, and since the setting in of the frost, though 1s. per qr. more money has been required for the parcels deliverable, yet little business has been transacting. While speaking of barley we may here refer to various delusive statements which have appeared in contemporary journals, professedly dedicated to the farming interest, holding forth to agriculturists the hope that Government will be enabled to relieve the landed interest of the burden of the malt duty by the substitution of Captain Rudkin's plan for gauging, and which, by the adoption of instruments, will so much reduce the heavy excise expenditure, which Government are now obliged to incur, in order to protect the revenue, that half the malt duty at least will be remitted. We would therefore not have farmers place any confidence in the garbled statements put forth by interested parties, who in order to obtain certain ends are induced so highly to colour and varnish their statements, that casual beholders only looking at the result without dissecting the causes which can lead to the full execution of the plan, are led away with the impression that the representation is genuine, and proceeding from well defined principles; whereas the whole is a tissue of perverted facts. Allowing that Captain Rudkin's plan, so justly lauded, is perfect in itself, yet there are so many obstacles to be removed before Government are likely to authorise its general adoption, that any ideas formed on these grounds are most premature. Besides, farmers must not omit to take into their serious consideration, that the remission of the malt duty, unless followed by the admission of foreign barley at a low duty, would have the effect of benefiting them to a very limited extent, and even then for a very limited period; as the home growth would not be equal to the increased consumption and the advanced price which would necessarily follow, consumption exceeding supply, would check for the time the demand; thus the repeal would produce scarcely any other effect than that of enhancing the price of barley, and affording to the farmer the means of paying *higher rent* for barley land; the *landlords* receiving any profit which might arise, but not the *tenants*.

The surplus of oats left over from the large supply received during the last week in December, was ultimately cleared off at a reduction of 6d. to 1s. per qr.; when the supplies proving limited and the frost afterwards appearing, factors were enabled to regain the depression from needy customers, but latterly few purchasers have been found, owing to the extra expense of carting the article, and getting it ex-ship, across the ice, making at least an additional expense of 1s. per qr., and therefore dealers and consumers are working up to their last quarter, in expectation of the frost soon breaking up. There have been few oats offering direct from Ireland, and prices may be

considered nominal, the only business passing of any consequence being in *resales*, and on speculation. We quote Limericks 10s., the same from the Shannon ports; Westports, 10s.; Derrys, 10s 3d. to 10s. 9d. according to time of shipment; Galways, 9s. to 9s. 3d.; Newry from its contiguity to Liverpool and Gloucester being 11s. 3d. to 11s. 6d., but for London are not worth more than 11s. Freights are still ruling high, a circumstance which acts disadvantageously to the trade, and it is stated "that in instances higher prices are being required by shippers than vessels in the regular course are to be freighted and in some cases 1s. per qr. more being charged than really paid."

Beans at first were dull, and most samples being affected by the weather, were 1s. per qr. cheaper, and white peas also receded, 37s. being a top quotation for boiling qualities. The prevalence of cold weather, however, has improved the quality of the former, and, with rather an increased demand, prices are fully 1s. to 2s. per qr. dearer; part, however, of this enhancement is lost to the owner, by the extra charges incurred in delivering them. Boiling peas have also experienced a readier sale at 1s. to 2s. more money.

The duty on wheat has fluctuated 1s. per qr., being now 33s. 8d., the same as it was at the close of December; the duty on barley, oats, and rye is 1s. 6d. per qr. higher; on beans, 4s., and on peas, 3s. per qr.

The later advices from Canada contain only news of a political character, and the civil discord at present unhappily prevailing in that distracted country affords a melancholy contrast with the previous peaceful habits and employment of the rural population. Instead of the *ploughshare* the sword is occupying the hands of the cultivators of the soil, husbandry neglected, land laying waste, and no capability of ensuring provision for the ensuing year. Business is quite paralyzed, and regular dealings are merely confined to the local necessities of the principal towns; all the country districts near the seat of war have been exhausted of their produce, either by destruction or forced detention.

The last letters received from Van Diemen's Land intimate that at Hobart Town, the prices of wheat were mainly dependent on the demand from Sydney, as the produce of the last crop in the Island, did not induce any belief of an improvement in the value of wheat, unless the surplus supply was taken off by New South Wales; wheat of the best quality was noted at 8s. per bushel, and flour 22s. per cwt. At Launceston large shipments had been making for Sydney, at from 6s. 6d. to 7s., prime wheat being noted at 7s. 6d. per bushel.

The frost has visited most of the Northern and North-Western Departments of France with considerable severity; and the communications by canal being prevented, and those by land carriage much impeded, the markets have been kept in limited supply. Prices for the most part unaltered, especially in the neighbourhood of Paris; but the

improvement in condition and quality of the wheat makes the sale much in favour of the purchaser.

At Paris also 200 sacks of Algerine wheat had been received; the quality is hard wheat, and the grain small and thin, but yields a good return of meal, making however a loaf of bread only of moderate whiteness.

The French Millers would have experienced considerable difficulty in working their water-mills, had they not in many instances had recourse to the usual plan adopted in the country of preventing the wheels from being clogged with ice by making near them a fire fed partially with small coal and *cakes of tan*; the tan produces a considerable quantity of thick smoke, which contributes materially in keeping warm the enclosure which contains the hydraulic lever, and in renewing this plan twice or thrice during the day, they prevent the formation of ice on the ladles of the wheel.

By the agricultural returns from Russia it appears that the export of grain has continued increasing; in 1834 it was entirely prohibited, in 1835 the shipments amounted to 811,000 *tchetwerts*, which were valued at eleven millions of roubles; in 1836 they had increased to 1,677,000 *tchetwerts*, estimated at 25½ millions of roubles; and it is calculated that the exportations of 1837 will be nearly equivalent in quantity and amount. The expectations of an abundant harvest have been disappointed in several districts of the empire, owing to the summer having been cold and humid; but in the Governments of Bessarabia, Crimea, Kiev, Pultawa, Cherzon, &c., the crops have been productive.

At Danzig, the principal manufacturer of flour, Mr. Witt, seems now the chief consumptive purchaser of wheat, prices of flour being established at 19s. per barrel. It appears that in Poland, from the failure in the produce of rye and potatoes, and wheat yielding scarcely an average, that necessarily an increased demand will be experienced for the inferior wheats, and the supplies therefore in spring will be, on the aggregate, very limited, unless prices should advance in Great Britain sufficiently high to tempt extraordinary exertions for transmitting the wheat from the interior; and in the lower Polish provinces wheat has been for the most part housed in indifferent condition. Below 30s. prime cost, no fine high-mixed qualities are to be obtained in Upper Poland. Flour was in active demand, and several purchases made for South America; freight to Buenos Ayres, 5s. 6d. per barrel. Owing to increased granary room, from the erection and repair of warehouses, rent was expected to recede at the commencement of this year to 1½d. per qr. per month.

At Stettin the stocks of wheat are reported small and the supplies barely sufficient for the actual consumption. Yellow Uckermark wheat was worth 28s. to 29s., red Pomeranian, 26s. to 27s., deliverable in the spring; Oderbruck barley 14s. to 15s.

At Rostock the supplies of wheat from the farmers have increased since the frost, and, the demand be-

ing limited, prices have rather given way, and 25s. to 26s. are the prevailing rates. Barley, 14s. 6d. to 15s. Oats, 11s. 6d. to 12s.

At Copenhagen the colour and quality of the wheat is represented as good, and worth 26s. to 27s. Barley, 16s. to 17s. Oats, 10s. to 12s., weighing from 36s. to 38lbs.

At Hamburg the navigation of the Elbe being prevented by ice, and no communication even being enabled to be held between Cuxhaven and Heligoland, has rendered the trade extremely dull. The principal sales of wheat are being made for grinding for spring shipment of flour, prices of Upland wheat being from 27s. to 29s.

At Rotterdam the sales of wheat have been confined to Rhenish parcels at 35s. 6d. to 37s. 6d. for American account. The stocks are represented very short, and the new wheats coming to hand unsatisfactorily, the yield being estimated one-fourth below an average.

The advices from the United States have been much less encouraging than were anticipated by the more sanguine speculators. Prices of wheat were extremely dull, and though 2 dollars had been obtained for selected parcels of foreign, yet fair to good samples had realized not more than 1 dollar 75 to 80 cents; Western Canal flour having receded to 9 dollars, and heavy sale. At Baltimore wheat was noted from 1 dollar 65 to 85 cents. Rye was also lower. At Philadelphia flour did not sell higher than 9 dollars, and wheat 1 dollar 80 to 1 dollar 95 cents. Rye, 110 cents. From Ohio it is stated, that the crops are so abundant this season as to exceed by 15 per cent. those of last year. The flour shipments from thence are represented to have been large, and the supply for the eastern markets will be ample. In the westward large quantities of flour are expected to be manufactured; and Ohio, which is considered the "Egyptian Granary" of the Eastern States, having as ready access to New York as New Orleans, is likely to contribute largely to the spring resources of both cities. The following statements from the United States, will be found interesting, as comprising the quantity of flour which arrived at Albany, Troy, and Schenectady from the 1st. of September to the close of the navigation, in the years 1835, 1836, and 1837. The wheat coming to Albany and Troy is included in the estimate at the rate of five bushels for a barrel of flour:—

	1835.	1836.	1837.
Barrels.....	590,213	557,040	728,839
Average prices 6 dol. 50c.	9 dollars.	9 dollars.	9 dollars.

The above account exhibits the quantity of flour arriving at tide water, from the 1st of September, when the new crop commences coming to market, to the close of the navigation in each of the last three years. The quantity coming to tide water for the period in 1837 is greater by 138,626 barrels, than for the same period in 1835, and exceeds the quantity coming to market in the fall of 1836, by 171,799 barrels at the above prices. The quantity brought to market after harvest, and during the continuance

of canal navigation in each of the years before referred to, will yield to the flour merchant the following sums:—

	Barrels.	Dollars.
1835 ..	590,213 at 6 dollars 50 cents.	3,836,384
1836 ..	557,010 „ 9 dollars	5,413,360
1837 ..	728,839 „ 9 dollars.....	6,559,551

The crop of 1836—that is, the wheat and flour coming to market from the 1st of September, 1836, to the 31st of August, 1837, is less by 384,000 barrels of flour, than the product of 1834. But with an importation from foreign countries of several millions of bushels of wheat and other grains, and with now an abundant crop of wheat and all coarser grains, as well as of every description of vegetable food, and with nearly 730,000 barrels of flour already in market from the wheat crop of 1837, it is difficult to imagine how the present high range of prices can be maintained in spring—the value of flour having since the year 1834, nearly doubled.

The flour and wheat arriving at the Hudson River via the Erie Canal, for the first week in December, is 27,421 barrels, and 10,284 bushels; corresponding period in 1836, 842 barrels—equal to an increase of 28,636 barrels of flour.

From *Salonichi* we learn that the restrictive laws in reference to the export of grain had been attended with very injurious effects to the people, and through the obstinacy of the late Pacha the whole of the crop of 1836 was still retained in granary, in consequence of which the Porte had come to the determination of permitting the exportation of grain under certain duties, viz., six piastres per kilo of *Salonichi* on wheat, and four ditto on all other qualities of grain. Several vessels are stated to have already arrived in the gulph of *Salonichi* with the view of loading corn, and it was expected that when generally known, the number would be much increased, especially as the harvest of 1837 has been abundant. Wheat is quoted at 50 piastres the kilo, equal to about 15s. per qr. duty included. Barley about 7s. 2d. per qr. Indian corn, 10s. 6d. per qr. Rye, 9s. 10d. per qr. This calculation of price and measure is made allowing 70 paras equal to 1 franc, and 1½th kilo equal to 2 hectolitres.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.	JAN. 1.	FEB. 1.
		s. d.	s. d.
Wheat, red, Essex, Kent, Suffolk.....	44 to 56	50 to 62	50 to 62
White.....	48 61	52 66	52 66
Norfolk, Lincolnshire and Yorkshire... 40	54 48	60 60	60 60
White, do. do.....	44 57	50 62	50 62
Irish Red.....	—	—	—
Ditto White.....	—	—	—
Barley, Malt, new.....	30 33	30 33	30 33
Chevalier, new.....	35 37	35 37	35 37
Distilling.....	24 30	24 30	24 30
Grinding.....	23 26	23 26	23 26
Irish.....	22 25	22 25	22 25
Malt, Brown.....	38 44	38 44	38 44
Ditto, Chevalier, new and old.....	58 62	58 62	58 62
Ditto, Norfolk and Suffolk Pale, do. .. 54	57 54	57 57	57 57
Ditto Ware.....	55 58	55 58	55 58
Peas, Hog and Grey.....	30 32	30 32	30 32
Maple.....	32 33	32 33	32 33
White Boilers.....	36 38	36 38	36 38

	JAN. 1.	FEB. 1.
	s. s.	s. s.
Beans, small.....	36 39	36 39
Harrow.....	34 37	34 37
Ticks.....	32 36	32 36
Mazagan.....	31 39	34 39
Oats, ENGLISH feed.....	21 23	21 23
Short small.....	23 26	23 26
Poland.....	23 26	23 26
Scotch, Common.....	20 22	20 22
Berwick, &c.....	22 24	22 24
Potatoe, &c.....	24 26	24 26
Irish, Feed.....	17 19	17 19
Ditto Potatoe.....	22 23	22 23
Ditto Black.....	17 20	17 20

PRICES OF FLOUR,

Per Sack of 280 lbs.	JAN. 1.	FEB. 1.
	s. s.	s. s.
Town-made.....	52 to 55	52 to 55
Norfolk, Suffolk, Kent, and Essex.....	38 42	45 46
Sussex and Hampshire.....	37 40	42 44
Superfine.....	41 —	46 —
Lincolnshire, Yorkshire, and Stockton.....	37 39	40 42
Northumberland, Berwick, and Scotch.....	38 39	40 42
Irish.....	38 39	40 42
Extra.....	41 —	44 —

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BONDED WAREHOUSES IN LONDON ON THE 5TH JAN.

Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.	Flour.
qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	cwts.
269,552	10,144	68,036	437	916	3,560	32,465

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th Jan. 1838; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity in Warehouse.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	...	460 0	7512 5
Ditto Foreign.....	16672 1	95 5	581947 1
Barley.....	1022 6	1229 4	36980 7
Oats.....	4416 3	8 6	251269 6
Rye.....	999 6	...	12046 7
Beans.....	695 2	261 7	4670 3
Peas.....	1240 4	420 4	22795 0
Indian Corn.....	...	...	2452 2
	cwts. qrs. lbs.	cwts. qrs. lbs.	cwts. qrs. lbs.
Flour from British Possessions.....	423 2 26	3668 1 12	22763 0 6
Ditto Foreign.....	28260 1 25	32 3 7	135842 0 19

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Weekending						
15th Dec.	53 5	29 2	20 11	30 9	35 7	34 7
22nd ..	53 2	29 3	20 5	28 6	34 5	33 10
29th ..	52 9	28 8	20 2	26 10	34 0	33 10
5th Jan.	52 4	28 10	20 1	31 6	32 11	32 0
12th ..	52 11	28 10	20 1	27 7	33 4	32 8
19th ..	53 7	28 9	19 11	27 11	33 6	32 7
Aggregate Average of the six weeks which regulates the duty.....	53 0	28 11	20 3	28 9	33 11	33 3
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	33 8	19 10	16 9	27 3	19 9	19 9
Do. on grain from British possessions out of Europe.....						
Foreign Flour 20s. 3d. per 196lbs., British Possessions Ditto 3s. per 196lbs.						

PRICES OF SEEDS.

JAN. 29.

The Cloverseed trade was rather more animated, and selected parcels of red English were held at 2s. per cwt. more money; in Foreign little alteration, and the amount paying duty the past week does not exceed 763 cwt., the stock in bond having diminished the past month, being on the 5th of Jan. only 25,005 cwt. In White seed no variation. Trefoil unaltered. Linseed maintains prices, but the demand for feed has been less than might have been anticipated, considering the severity of the weather. Rapeseed unaltered. Canary dull at the quotations. In Caraway and Coriander no variation. Mustardseed dull, both brown and white. Tares are held at former prices. Linseed Cakes maintain previous rates.

SEEDS.

CLOVER, English red.....	40 76	white	42 70	per cwt.
Dutch.....	40 66		40 65	
German.....	40 67		40 65	
French.....	40 68		— —	
American.....	— —		— —	
Trefoil.....			12 19	
Rapeseed, English.....	£26 £28	foreign	£20 £24	per last
Linseed, English Sowing.....	— —		52 56	per qr.
Baltic.....	— —	crushing	38 40	
Medit. & Odessa.....	— —		40 44	
Hempseed, small.....	32 34	large	38 40	
Canary, new.....	38 40	old	42 44	
Caraway.....	— —		40 44	
Coriander.....	— —		11 14	per cwt.
Mustard, brown.....	12 16	white	7 9	per bush.
Turnip Seed, new Swedes.....	20 21	other sts.	28 36	
Rye Grass, English.....	30 45	Scotch	18 35	
Tares, Winter.....	— —	spring	34 —	

POTATO MARKET.

SOUTHWARK, WATERSIDE, Jan. 29, 1838.—The supply of Potatoes to the waterside during the past week has been very limited, owing to the continuance of the frost, and large quantities of ice in the river, which prevent the arrival of shipping, and are as follows:—From Yorkshire, 400 tons; Jersey, 190; making a total of 590 tons. The trade has been brisk in proportion to the supply, and the buyers purchase good samples freely, at the annexed quotations:—

	Per ton.
York reds.....	—s 80s Do. whites..... —s —s
Do. kidneys.....	—s 80s Devons..... —s —s
American Natives.....	—s 80s Scotch..... —s —s
York Shaws.....	—s —s Kent, Essex, and Jersey Blues..... —s 80s Suffolk Whites..... —s 65s

WOOL MARKETS.

BRITISH.

	Per lb.	JAN. 1.	FEB. 1.
		s. d. s. d.	s. d. s. d.
Down Tegs.....	1 4½ to 1 5½		1 5 to 1 6
Half-bred do.....	1 5 1 6		1 5½ 1 6½
Ewes and Wethers.....	1 2 1 3		1 2 1 3
Leicester Hogs.....	1 2½ 1 3½		1 3½ 1 4½
Do. Wethers.....	1 0 1 1		1 1 1 2
Blanket Wool.....	0 8 1 0		0 9 1 0
Flannel.....	1 0 1 4		1 0 1 4
Skin Combing.....	1 0 1 ½		1 0½ 1 1½

WAKEFIELD, Jan. 26.—We have no material alteration in our market this week. Wool is firmly held at the advance stated in our last report; but as the manufacturers cannot obtain any adequate advance on their goods, and the stocks in dealers' hands are low (the severe frost preventing arrivals), fewer sales have been effected.

LIVERPOOL.

WEEK ENDING JAN. 27.

SCOTCH.—Owing to the severity of the weather our arrivals from Scotland since the commencement of the year have been light, and as the stock here is by no means heavy, advanced rates are asked by holders, and to a certain extent obtained. The business of this week is not heavy, (the stoppage of the canals by frost being a great impediment), but a very firm feeling exists, and

an extensive business is anticipated when the communication with the interior is opened.

per stone of 24 lbs.		s.	d.	s.	d.
Laid Highland Wool, from	....	10	0	10	6
White do. do.	....	13	0	13	6
Laid Crossed do. do.	....	14	0	15	0
Washed do. do.	....	15	0	16	6
Laid Cheviot, do.	....	16	0	17	0
Washed do. do.	....	23	0	25	0
White do. do.	do scarce	28	0	30	0
Import for the week	.....	50 bags.			
Previously this year	.....	458 do.			

SCOTCH.

Per Stone of 24 lbs.		JAN. 1.		JAN. 1.	
		s.	d.	s.	d.
Laid Highland Wool, from	....	9	3	9	9
White Do. Do.	....	11	9	12	6
Laid Crossed Do. Do.	....	12	6	13	6
Washed Do. Do.	....	15	0	16	0
Laid Cheviots	....	15	0	16	0
Washed Do.	....	18	0	22	0
White Do	....	26	0	28	0

FOREIGN.

JAN. 29.

The late extensive public sales have been brought to a conclusion, and their result has been quite satisfactory—a general advance of 3d. per lb. on the prices obtained at the preceding public sales, having been obtained. Considerable quantities of wool have changed hands since our last by private contract, at full prices; whilst no imports have been announced, on account of the ice in the river.

Electoral Saxony wool, from 4s. 0d. to 5s. 2d.; first Austrian, Bohemian, and other German wools, 3s. 2d. to 4s. 0d.; second do., 2s. 0d. to 3s.; inferior do. in locks and pieces, 1s. 6d. to 2s.; German lamb's do., 2s. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonessa sheep's do., 2s. to 3s. 2d.; Segovia do., 1s. 8d. to 3s.; Soria do., 2s. to 3s. 0d.; Caceres do., 2s. to 3s. 2d.; Spanish lamb's do., 1s. 6d. to 2s. 6d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal sheep's do., 2s. to 3s.; ditto lamb's ditto, 1s. 6d. to 2s. 6d.; Australian, fine crossed do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Diemen's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 4d. to 2s. 10d. per lb.

LONDON, THURSDAY EVENING.—In continuing our report of the progress of the public sales of Colonial and other Wools, it is satisfactory to be enabled to remark, that the demand has continued throughout with great animation. The prices obtained exhibited a gradual improvement, an indication of the healthy state of things in the market for this important article of produce. The sale of Friday last was by Messrs. T. Simes and Co., and for which 1,005 bales were declared, consisting of 412 Australian, 204 Van Diemen's Land, 199 brook-washed Odessa, and other Wools. Choice Tasmanian sold at 2s. 3½d. to 2s. 8d. per lb. (mark J. A. in a circle), and Sydney Wools fetched 2s. 2d. to 2s. 6d. (mark J. B. with R. under) and 2s. 2d. to 2s. 5½d. for marks of H. Mc. The other samples sold at about previous prices. German Lambs obtained 2s. 2d. to 2s. 5d., and Tuscan 1s. 1d. to 1s. 4d. per lb. The sale of Saturday was by Messrs. Lord and Hall, being 262 bales of Spanish Wools, which sold at 1s. 3d. to 1s. 10d. per lb. On Monday the sales were resumed with, if possible, more animation. Messrs. Loughnan and Hughes offered 911 bales of Van Diemen's Land, and Australian 425 bales, brook-washed Odessa 300 bales, Cape 84 bales, &c. The sale-room was again much crowded. The qualities offered were rather unequal; the best Australian sold at 2s. 3d. to 2s. 8d.; Van Diemen's Land 1s. 6d. to 1s. 8d.; English Combing 1s. 5d. to 1s. 9d.; German 2s. 3d. to 2s. 4d., and the brook-washed Odessa at 1s. 2d. to 1s. 11d. per lb. The sale of Tuesday was by Messrs. T. Simes and Co., when 1,448 bales were sold, the demand continuing very brisk; the Van Diemen's Land Wools, 466 bales,

went off at 1s. 4d. to 2s. 4½d. for the best marks; for the Sydney 2s. 4d. to 2s. 6½d.; and for the Cape 1s. to 1s. 6½d. per lb. The greasy and inferior samples obtained previous prices. The German Wools at this sale produced 1s. 6d. to 2s. 1d. per lb., the Russian 1s. 3d. to 1s. 9d., and the Spanish 1s. 7½d. to 1s. 9d. per lb. Messrs. Thomas Scuthey and Son conducted the sales of yesterday and offered 1056 bales, of which 429 were East India, 133 were Cape, and the remainder German, Odessa, &c. The Cape Wools were of low quality, and sold at 5½d. to 1s. 4d. per lb.; the East India, 4d. to 8½d. per lb.; Russian, 1s. 6d. to 1s. 9½d. per lb.; and Hamburg, 1s. 9d. to 1s. 11d. per lb.; White Cashmere Wools obtained 1s. 8d. per lb. The last sale of the series took place to-day, and was by Marsh and Edenborough, when 827 bales of Colonial Wools were sold. The Australian, 34 bales, realized prices from 1s. 2d. to 2s. 1½d. per lb.; and the Van Diemen's Land, 793 bales, averaged from 1s. 2d. to 2s. 7½d. per lb., the best qualities being marked H. H. The averages of the whole of the sales have not yet been completed. The advance previously quoted was fully supported up to the termination of these sales. The arrivals this week have been limited to 45 bales of Turkey Wool only.

NEW YORK, Dec. 25.—There continues still to be a limited demand for wool, as the market for domestic goods rules heavily. There have been two cargoes lately imported from Smyrna and Constantinople, and also a cargo of fine wool from New South Wales. The prices for some time past have been very steady.

PARIS, Jan.—The demand for combing skins of good quality is still rather animated. The small supply which came to hand was eagerly bought up. There was nothing in other qualities, the market being heavy. The retail houses are selling many woollen manufactures, and have almost emptied their shelves, but it is not expected they will fill them again until the weather shall be quite settled, so that the wholesale dealers derive but little advantage from the severity of the weather. This is, however, the ordinary result of all tardy winters.

COURTRAY, Jan. 5.—We have had but few foreign buyers at our market, but there has notwithstanding been an advance in prices. One purchaser who took almost nothing but the five-fourth cloths caused prices to rise 3 liards per ell on the previous quotations.

LE MONS, Jan. 15.—Our cloth hall was badly supplied, the rigour of the season having hindered the attendance of manufacturers. Although but a limited quantity was disposed of, a marked advance on the two-thirds sizes took place. The lowest price of the four-fourths was 95 cents.

ANTWERP, Jan. 24.—Wool is tolerably sought after here lately, and there is but a small stock. The demand at present is chiefly confined to Russian descriptions, 60 bales having been sold at prices which have not transpired. Some small lots of Peruvian were also disposed of. The navigation of the Scheldt being impeded by the ice, prevents of course, either imports or exports.

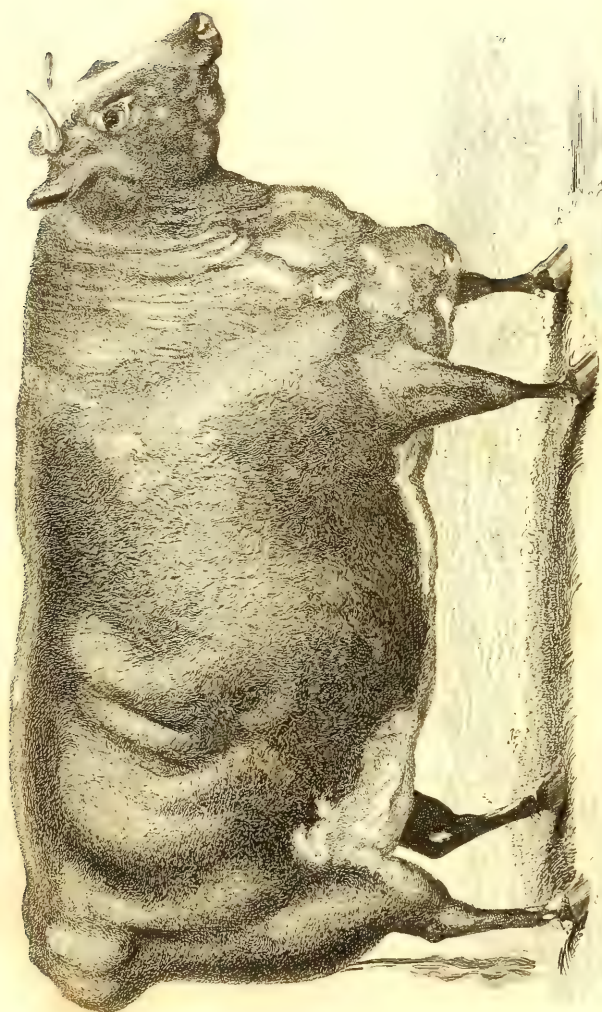
BRUGES, Jan. 20.—Owing to the rigorous cold, our cloth market has been of little importance. Some of our merchants have bought small parcels at rather better prices than previously; the remainder being common sorts found no buyers.

Wool on which the Home Consumption Duties have been paid at London, Bristol, and Hull, during the last week:—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Sheep, Spanish, London ... lb.	103729	39180
Bristol ... lb.	—	—
Australian, London ... lb.	62780	—
German and other Sorts, do. lb.	560589	1176998
Do., Hull ... lb.	764073	27310

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Smithsonian Institution

U. S. National Museum

THE FARMER'S MAGAZINE.

MARCH, 1838.

No. 3.]

[VOL. VIII.

THE PLATE.

The animal which forms the subject of our first plate is a short-horned Heifer, the property of W. Baker, Esq., of Cottesmore, and was exhibited at the last Smithfield Show, when a premium of fifteen sovereigns, also the silver medal as breeder, and the gold medal as being the "best beast in any class," were awarded to that gentleman.

Of this extraordinary animal which has attracted so much notice throughout the country, an admirable painting has been taken by Mr. W. H. Davis, of Chelsea, in his very best style, which in our opinion reflects the highest credit upon the artist, it being a true and faithful likeness of the animal without flattery or omission; an object much to be desired and applauded in all similar cases where animals are placed before the public as specimens of any particular breed. The true character of the animal should always be well *defined* by the artist without regard to symmetry or any other qualification, because to display upon canvass perfect points which the animal never possessed, or to leave out those which it did possess, is highly detrimental to the advancement of agricultural knowledge. It is a duty therefore incumbent upon all spirited agriculturists who may bring out specimens of their stock for public exhibition to be particularly careful to whom they intrust the important task of placing their likeness upon canvass or print, and endeavour to make that selection that will best serve the public by its honest and correct representation. In reference to the painting from which our plate is taken, we think that the breeder of the animal has done his duty to himself and the public by selecting Mr. Davis as the artist, and the production proving so satisfactory, he has given that gentleman the *sole right to publish* the print.

This heifer was particularly neat and true in her form, standing upon very short legs, firm in hand with mossy coat and silken skin, and we doubt whether an animal displaying more perfect symmetry, with so *much* FLESH, was ever exhibited at the Smithfield Show.

We venture strongly to recommend our readers to bear in mind the *quality* and *symmetry*, and the age, weight, and lightness of offal of this animal; and for their further information we call their attention to the following particulars relative to her pedigree, which have been obligingly forwarded to us by Mr. Baker. She was by "Gainsborough," a bull of great note in Rutlandshire which obtained several prizes as the best bull of any age, at that Society's shows. For his pedigree see the 3d vol. of the Herd Book p. 86, it is there stated that he was red and white, which is incorrect (he was a roan); from this bull a large number of prize animals have been bred. His sire "Emperor," and grandsire "Meteor," the property of Lord Exeter, the former bred by his lordship and the latter by the late Charles Champion, Esq., were animals possessing great merit.

"Gainsborough" is the sire of "Roderick Random" (a roan), which bull has been shown four times at Grantham and Oakham and won four first prizes, and his dam (a roan) has been shown twice at the above places and won two prizes as the best milking cow. He is allowed to be one of the best *fleshed* and most useful bulls in the country.

For the heifer's dam "Watts," see 3rd vol. Herd Book, p. 297. "Watts" obtained the first prize

at the Rutlandshire Agricultural Society in 1836, as the best milking cow. Her sire was "Aid-de-camp" (722) and was bred by the late Charles Champion, Esq., who exhibited him at the last meeting of the Board of Agriculture in London with his grand dam; the former obtained the first prize first class as the best bull, and the latter the first prize as the best milking cow.

"Watts" was calved in 1829, and has produced five living calves, and her dam produced seven living calves and was then slaughtered.

The dam of "Gainsborough," "Baroness," was calved in 1833 and slaughtered after winning the prize at Oakham as the best fat cow in 1832, and produced six living calves. The grand dam of "Gainsborough" was calved early in 1820 and slaughtered in 1826, and produced four living calves. And "Roderick Random's" dam has produced six living calves. The great thickness of flesh which the heifer cut when dead was extraordinary, which combined with the particulars given of the *milking* and *breeding* qualities of this stock renders further comment from us unnecessary, particularly to those agriculturists who have from time to time seen animals from Mr. Baker's herd. Mr. Baker has since, about Christmas 1831, borne off no less than forty prizes for short-horn stock, including the first prize in the first class at Smithfield in 1833.

AGRICULTURAL IMPROVEMENT— IRELAND.

There is nothing that can afford more real gratification to every native of the British Islands, who has the welfare of his country at heart, than to perceive that at length public attention is awakened to the condition of that long oppressed but valuable part of the United Kingdom, Ireland. Possessing a mine of wealth in the natural fertility of her soil, and producing an ample stock of hardy peasantry, not only able, but willing, to labour in the cultivation of the soil, were they but in a situation so to do; she offers materials in the judicious use and management of which the wise statesman may secure a monument of fame by fostering and promoting general improvements, thereby adding to the national wealth and strength, and the capitalist may derive advantage by obtaining good interest for his capital, and at the same time enjoy the satisfaction of knowing that he is contributing to the necessities of his unfortunate fellow countrymen. At the present moment there are several matters in progress to which considerable interest attaches, from the belief that they will be productive of benefit. A report is ready and about to be presented on the propriety of laying down railroads in that country and pointing out the best lines, in which it is anticipated by some persons that a railway from Dublin to Crookhaven will be recommended, thereby making a port on the western coast of Ireland the regular packet station for the western hemisphere, an object which, if carried out, will not only materially facilitate the intercourse between this country and America, but also conduce to the improvement of that part of the sister island. The commissioners for the improvement of the Shannon are also prepared with a report on that most important subject—facility of internal communication—the very mainspring of agricultural and commercial improvement. A Bill is in progress through Parliament for providing relief for the destitute in Ireland, the principle of which we

approve, and believe will be effectual, so far as regards the sick, the aged, the infirm, and the disabled, but not as regards the *able bodied out of employment*. We have stated upon several former occasions, and we again repeat an opinion in which we are daily more and more confirmed by statements from the mouths and pens of the persons best informed upon the matter, that *employment* and *employment alone* can relieve the destitution now suffered by the working class in that country. Lord Clements has recently published a pamphlet upon "the present poverty of Ireland," of which the following is an extract:—

"One consists in providing cheap and healthy support for the destitute; that is a matter essentially within the province of the administration is capable of proof in vulgar arithmetic, and can be drawn out on balance sheets and in tabular forms. The other advantage of the system is unseen to the public eye, and the administration do not get the credit of it; but it is much more important and consists in preventing people from becoming destitute by stimulating the search after profitable employment. In England that stimulus was principally required by the labourers, in Ireland it must be applied to the farmers and landlords."

The essence of the whole subject is contained in the last sentence, "In England that stimulus was principally required by the labourers, in Ireland it must be applied to the farmers and landlords." We can assure his lordship that the remark will apply, although perhaps not with so much force, to a very large part of England. It is expected that the introduction of a Poor Law into Ireland will stimulate the farmers and landlords to find employment for labourers; we trust it may so turn out. It is said by some persons that the Irish landlords are positively *opposed* to improvement, and will throw impediments in the way. We would fain hope if there be any foundation for such a charge it is confined to some few isolated cases. This, however, we do know, that although some Irish landlords are rich, very many others have large tracts of fertile land uncultivated and which they cannot bring into cultivation for want of capital. We will leave the landlord who has

capital to the *stimulus* of the Poor Law, and address ourselves to those landlords who cannot afford to make an outlay in improving their lands. In 1836 an Act of Parliament was passed, entitled "An Act for Incorporating a Company for the the improvement of Waste Lands in Ireland." As soon as the act passed, the company was formed under the patronage of some of the most influential noblemen in Ireland, and directors were appointed of whom the Earl of Devon is chairman. Looking at the numberless schemes set afloat in the year 1836, it is not impossible but that doubts may have been entertained as to the prospect of benefit to be derived from the establishment of a company entertaining such an object, either by the shareholders, or the parties whose lands the company proposes to lease for the purposes of improvement. The names of the patrons and directors afford an ample guarantee to the shareholders, that the affairs of the company will be conducted with wisdom and integrity, and the act of parliament most fully and satisfactorily protects the interests of the parties of whom lands may be taken upon lease. We have perused the act, and we have no hesitation in stating, that we never saw an act of parliament in which the philanthropic object of the projectors was so manifest throughout the whole plan, and the grand object of "improvement" kept in view; the scales of justice being most evenly balanced between the company and the landowners. It is rather a matter *dehors* the subject, but we cannot refrain from noticing the forms of "conveyance," "mortgage," and "transfer of mortgage," as furnishing an instance of the possibility of accomplishing in 30 or 40 lines, that which is usually spread over as many pages. Extreme caution should be used in making public statements calculated to prejudice important objects, as well-intentioned persons frequently do mischief from a negligence in seeking to obtain correct information. It was some time since stated in the columns of the *Sun* newspaper, the proprietor of which we know to be ever anxious to promote improvement in every department, and in every corner of the Empire, "That the 'Irish Waste Land Improvement Company' was incapable of producing any good, and would shortly be dissolved." And a Mr. Smith, who is zealous for the improvement of Ireland, has recently published a letter upon the subject, addressed to Lord John Russell, in which he says, speaking of the Company,

"They were no sooner authorized to commence operations, than they sent a deputation to Ireland to examine the state of different tracts of land and treat with the owners; but they have not succeeded in obtaining the lease of a single acre! The last piece of news circulated with reference to this Company was, that a requisition requiring its immediate dissolution had been presented to the Board of Directors."

We do not for an instant impute any motive to Mr. Smith in making such a statement, but we cannot refrain from expressing our regret that he should have made a statement so incorrect, and at the same time calculated to prejudice the Company if unanswered. So far from not having obtained a single acre, we are authorized to state that a purchase of 1,000 acres, has been completed, and a treaty for 2,000 acres more is almost concluded. We are fully convinced that there is no

plan for the improvement of waste land which has ever been propounded, so entitled to serious consideration, as the one of which we are now speaking. It has been clearly substantiated by practice in different parts of the United Kingdom, and in many parts of Ireland in particular, that an outlay of capital upon draining and otherwise improving land, will make a very handsome return in the shape of interest. The shareholders in this Company therefore can entertain no doubt that it is a safe and profitable medium for investment. As regards the landowners, were an individual to propose to make an outlay in improving land, without calling upon the owner for one shilling, we apprehend, the proposition would be gladly accepted. Such is the proposition of this Society. The Society will take leases of any lands upon which it can be shewn that any capital may be safely employed with the prospect of an adequate return. The length of lease, the amount of rent and other particulars must, of course be the subject of negotiation in each particular case. As some proprietors who may be anxious to improve a tract of land forming a part of their estate, and wish to avail themselves, for that purpose, of the capital of this Society, may yet not like to grant a long lease to strangers and thereby give to others the selection and management of the resident occupying tenantry, which it would be more agreeable as well as advantageous to retain, a plan has been devised whereby the objects of the Company will be attained, and the proprietor still keep the selection and management of the tenantry upon his estate in his own hands; the apparent proprietorship of the lands will not be changed, capital will be expended under the eye of the proprietor or his resident agent, and whenever circumstances enable him to redeem the profit rent, he may extinguish the lease and regain the entire and absolute property in an improved tract. The operation will in substance be on the part of the landowner simply a borrowing of capital for improvement of his land upon annuity in the shape of profit rent to the Society, which it will be in his option to redeem. We are convinced that there are large tracts in Ireland upon which under an arrangement of this nature Capital may be laid out upon such terms, as, after securing a good return to the capitalist, will still leave to the proprietor such an interest as will provide a sinking fund, which, in a given number of years will repurchase the lease altogether and thus give him the benefit of the improvements without any actual outlay or loss on his part. In order to prevent a monopoly upon the part of the Company, they are compelled, having made their improvements, to sell the land so improved, within seven years of the date of the taking having first offered it to the landowner, who may at any time after the improvements made and before the expiration of the seven years have his land back on payment of twenty years purchase, upon the then actual value. We trust this Company will meet with support from capitalists, and we have not the slightest doubt but that the landowners in Ireland, when made acquainted with the facilities it holds out for improving their property will readily embrace the advantages offered.

THE NEW AGRICULTURAL INSTITUTION.

SIR,—Your laudable exertions in promoting the establishment of an agricultural institution in England upon the system of the Highland Society, must inevitably meet with the approbation of agriculturists throughout the kingdom, especially those who are advocates for promoting practical agriculture upon the most approved principles. I am of opinion that before agriculture can be brought to any great degree of perfection, or established on the best founded principles, it will be necessary to record a series of experiments, in various soils and climates. The ardent enquirer should not be left to grapple with the vague opinions of theoretical men, without having sufficient assurance that the authority would warrant a more than probable success. This long wanted information, I believe, is only to be obtained by the establishment of experimental farms; and as the expense would be beyond the support of a few, or a combination of individuals, to establish an institution of this kind, for the great benefit of the public, would it be too much to hope, that Government would give that support which would enable the association to offer adequate premiums for new discoveries, that would promote the art of farming upon such principles as would lead to the most profitable cultivation. Although there have been many experiments made by distinguished farmers, it has been for their own information.

In my own case I have been obliged to avail myself of the means of inserting some experiments, in the Transactions of the Society of Arts, vol. 49, 1832, on the Growth of Swedish Turnips, not having any better, or more direct means, of submitting it to the notice of agriculturists. Last year I grew a field of Swedish turnips upon the same principle, which averaged 34 tons per acre, and many single roots weighed 12lbs. I should say, also, that it was grown on a field not considered to be turnip land, and the most ordinary land on Sir Edward Kerrison's estate, if any of the land upon so fine an estate could bear such an epithet. I believe the public would derive great advantage in being made acquainted with skilful experiments, which should at all times be thrown open to public inspection; by keeping a faithful register of every experiment, whether successful or otherwise. After making several trials of an experiment it should be carefully written and published, so that the public could at once be able to judge of the quality of soil best calculated for the new culture, and in what part of the kingdom it would be best adapted. It will be of the utmost importance to select an intelligent practical conductor of such a farm, who would be able to establish it upon a good system.

Many praiseworthy farmers have gone to great expense in making discoveries, who never thought of extending the information to their neighbours, or perhaps confining it to a small circle of friends, by which means the public in general could derive no possible good. In a country like this, possessing a large revenue, surely it could contribute a few thousands for the purpose of discovering the most productive mode of agriculture. It would be the means of improving the wealth of the country, and give profitable employment to many of our unemployed countrymen. We are not without a precedent in adopting this national benefit, therefore it can be no speculation, when we find that one of the greatest statesmen of modern times,* had the liberal spirit to allow 300,000*l.* sterling per annum, for

the improvement of agriculture, and considered it as "manure spread upon the ground." Now, let us see what was the result of this domestic application of manure? Why it enabled him to increase his revenue, so as to leave behind him 12,000,000*l.* sterling. I cannot conceive how the landed proprietors in England can suffer their tenants to be dragging on year after year with a comparatively imperfect knowledge of farming when compared with Scotland, taking them as a body; and the reason is obvious, when we consider the vast intelligence actively employed in the improvement of Scotch agriculture; which is greatly acquired by the facility of obtaining education there. Why not establish parochial schools on a similar footing, that we may no longer remain so much in the back-ground? Let us have only the same chance of displaying our ingenuity as our sister country, and I will venture to say that, ere long the fine honourable feelings of our English farmers will be stimulated into active exertion, and redound to the praise and honour of their ingenuity, which has hitherto been dormant as a chrysalis before it expands into a full grown butterfly.

I should strongly urge that the science of chemistry be carefully taught as far as is applicable to agriculture, because I am convinced, without that knowledge, our noble British yeoman will scarcely be out of the reach of the odious appellation of a dolt, when compared with a scientific farmer.

"The agriculturist who combines knowledge with invention, enterprize with experience, liberal communication with vigilant enquiry, and candidly declares the result of his own experiments, will necessarily frame a system of farming both beneficial to his own estate, and that may be transferred with benefit to land similar to that which he has long managed. If he propose to transfer the system to an opposite sort of soil, a mere opinion from such an authority, strongly expressed, may mislead."*

I must quote the opinion of the celebrated Doctor Watson, Bishop of Landaff, having most ably explained the advantage that the country would derive by the application of a public grant for the improvement of agriculture. "The agricultural improvements which have hitherto taken place amongst us, have been effected by the expenditure of private wealth, but the country cannot be brought to that perfection of cultivation of which it is capable, unless individual efforts are aided and accelerated by public wisdom and munificence. I boast not of any particular patriotism, but I would willingly pay my share of twenty or thirty millions of public money to be appropriated by the legislature to the agricultural improvement of Great Britain and Ireland. This appears to me to be an object of far nearer concern to our independence as a nation than any extension of commerce, or any acquisition of distant territory ever can be. If the time had fully come when an unproductive acre of land could not be found in either of these, our fortunate islands, we shall then have food within ourselves for the annual sustenance of at least thirty millions of people; and with a population of thirty millions what power in Europe, or what combination of powers, will dare to attempt our subjugation?"

Feeling anxious to express a sentiment, although a hasty one, upon a subject which does so dearly claim the support of every landed proprietor as well as occupier, and involves the interest of the public at large, I am induced to trouble you with this; and remain, Sir, your obdt. servant, CARLETON SMYTHIES.

Eye, Suffolk, Feb. 19.

* Frederick the Great.

* A Practical Agriculturist.

THE INTENDED BRITISH AGRICULTURAL SOCIETY, ITS USES, AND ITS IMPORTANCE.

SIR,—It is proposed to establish immediately, under this or a similar name, a Society, whose objects shall be exclusively directed to the improvement of Agriculture in all its branches; and that the Society shall be so constituted, that, by avoiding all political discussions, and every question likely to lead to them, it shall receive the support of men of all parties, and by imitating the example of the Highland Society of Scotland, in giving rewards for new discoveries in agriculture, and promoting scientific efforts in every possible way, be entitled to the gratitude of the public. With this view such a society will carefully avoid entering into any commercial speculations, or engaging in any research which is not intended to benefit, immediately or indirectly, the community at large. It must not only rigidly avoid all interference with party or profit, but it will shun the very appearance of such an intention, as it intends to be a society for the farmer, and for his increased prosperity.

It is perhaps needless in this letter to allude to the advantages which must be derived from such a society by the now neglected science of agriculture, for it appears to be admitted on all hands, that there is a deep-seated conviction amongst the best farmers of England, that agriculture is yet only in its infancy—that many a scientific fact has yet to be applied to farming—that many a stubborn prejudice has still to be removed—many a chemical experiment made, before the produce of the earth will even nearly be at its maximum. And yet such are the difficulties attendant upon all agricultural investigations, so many are the sources of error which encircle even the most common farming experiment, that we need be little surprised that, supported as the science has been hitherto, almost exclusively by individual exertion, that so little has been done for its general improvement.

To diminish these difficulties will be the paramount object of the proposed society, and as this can only be done by careful or unwearied investigation, and the diffusion of knowledge, this will be best effected by offering premiums for agricultural improvements—publishing in the most generally acceptable form its prize essays, its transactions, and the results of the investigations which it has promoted, not only in this, but in foreign countries; and above all, this society must carefully encourage, not only by precept, but by its own example, a patient spirit of research, having no Polar star except the increased prosperity of agriculture; and to effect this great, this truly national object, it will be perhaps advisable to hold its chief annual meeting (as long successfully adopted by the Highland Society) in different parts of the country, as any particular agricultural motive may suggest the propriety, whether that object be the acquisition of knowledge, its diffusion, or the increase of that spirit of investigation which is ever the result of such occasional meetings.

Such a society will speedily, by promoting better modes of cultivation, and consequently increasing the produce of the land, do away with all fears of overpopulation, and render emigration needless, which many of the most philanthropic men in England have, at considerable personal trouble and cost, promoted, to avert the evils of war, pestilence, and famine, from what Mr. Malthus supposes to be the tendency of mankind to excessive population,—it may be well for the public to examine a paper (page 89, vol. iii.) of the Highland Society's Quarterly Journals of Agriculture, which, in detail, ably examines and refutes his data, calculations, and conclusions.

Stimulated and encouraged by an "Agricultural Institution," established and conducted upon sound principles, let improvements proceed; let science go hand in hand with the farmer; let the naturalist find new cultivatable vegetables, or new varieties of those already known;—let the chemist yield his magic aid to demonstrate the best mode of promoting their growth,

and increasing the fertility of the soil; and then, I fearlessly assert, that many more than the present inhabitants of Britain may be amply supported by the produce of the land of our birth.

CUTHBERT W. JOHNSON.

14, Gray's Inn Square, Feb. 16.

THE PROPOSED NATIONAL AGRICULTURAL INSTITUTION.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I am very glad to find by the correspondence in your journal lately that there is some probability of our having a purely Agricultural Society. We want one based on the broad principle of usefulness, one to which an agricultural museum shall be attached, in which all new improvements, whether of grain or of agricultural instruments, may be viewed, in which every thing connected with any improvement in the breed of cattle may be made known to all who visit it, in which, in fact, any thing bearing on practical agriculture may be centralized, and afford every one an opportunity of seeing and hearing of the management of general farming. I am persuaded much is lost to the agricultural world in not affording encouragement to mature half-concocted plans and experiments, which for so long a time have been suffered to fall to the ground for want of means to pursue them. Prizes ought yearly to be given for all kinds of Essays, Improvement in Roots, Stock, and Machinery, &c. The Society might be supported independent of the Central Society by subscription and the payment by non-subscribers for admission into the museum; we do trust Earl Spencer and other of the nobility and gentry will see sufficient usefulness in such an undertaking to merit its immediate adoption.

AN ESSEX FARMER.

MR. HANDLEY'S LETTER ON THE NEW AGRICULTURAL INSTITUTION.

SIR,—Having perused a pamphlet containing a letter written by H. Handley, Esq., M.P., to Earl Spencer on the formation of an agricultural institution. I use the liberty of making a few remarks thereon, through the medium of your useful journal.

It has always struck me as a remarkable circumstance that it is reckoned necessary to hold out premiums in order to induce a man to exert himself for his own advantage. Self interest is the grand spring of human actions, and if any man will not rouse himself for his own profit I should consider him almost past redemption; every plan devised for the promotion of agriculture has failed; the farmer is borne down to the earth with a load of opinions and prejudices, and enclosed in a pin-fold, of which custom has fixed the lock, and prejudice keeps the key. No society rewarded the manufacturer to adopt the spinning jenny or the mule; he at once saw the advantage, and common sense told him to increase the number of his articles and to diminish the cost of production. Mr. Handley recommends the same plan to the farmers, but in trying to diminish the cost of production the farmers commit the unpardonable blunder of subtracting from cultivation and manuring, one main cause of the stagnation in the art. The same means adopted by the manufacturer are and have long been offered to the farmer; machinery will thrash his crop at one-sixth the expense of flails, but he will not adopt it, he spends money uselessly in a barn and neglects cultivation. The farmer rejects any new implement because his men do not like, or are unwilling to

work them. If the manufacturer had been of the same temper the discoveries of Hargreave and Arkwright would have been yet in obscurity. Mr. Handley recommends diminution of cost and increase of produce, but I doubt much if the landowners themselves have adopted every means that is known to do so, for, with some splendid exceptions they are as much prejudiced and tied down to the current value of opinion as any old farmer in England; and I never can see how any person can recommend any system to others when he has not adopted it himself. Mr. Handley thinks the earth is only the medium of supplying food to plants; but it is evident it must exert an extensive influence, for if we apply equal quantities of manure of the same quality to a rich and to a poor soil, we will probably get double produce from the rich soil, thus showing that manures fail in effect from fault of the medium, or that the earth itself affords food to plants according to its quality. Repeated applications of manures and draining of wet lands are the only means known at present of correcting this fault in the soil. No improvement is more wanted than in the plan of farm buildings and yards, but it rests with the proprietor to show the example. Mr. Handley seems to have adopted the notion of magnesian lime being hurtful to vegetation. I do not know nor I never read of any regular experiments that fully established this fact, to establish a fact we must have a majority of similar results under similar circumstances, for nothing can be determined from a single experiment or observation. I had some few years ago the chance of farming on a loamy clay soil in the neighbourhood of Breedon rock in Leicestershire, one of the strongest magnesian lime stones in England. The writer of British Husbandry says that if the farmers apply more than twenty-five bushels of this lime per acre, the bad effects are visible for many years. Breedon lime, it is said, raises quantities of couch and thistles, but it is difficult to see how calx which contains in itself none of the elements of vegetation could raise thistles; lime may certainly produce weeds as well as crops, but then it is the business of the farmer to see that there are few or no weeds in the soil to exhaust the manures he has supplied for the maturation of his crops. Farming is, that nothing grow on land except what is sown, and though this may not be altogether attainable, as there must always be a wide difference between possible and ideal excellence, yet the nearer we approach to it the nearer we approach to perfection. The land having been much scourged by previous cropping and robbed of decomposable vegetable matter I applied dung and lime together, the latter at the rate of 200 bushels per acre, in a hot caustic state on the land finally reduced and immediately harrowed in, the land was then drilled for green crops, the crops were excellent, the green crops, wheat, barley, and hay, all showing the great improvement. Some lime being left in finishing a field, I directed a double dose, viz., 400 bushels per acre to be applied to two ridges in the middle of the field; the crop of wheat and hay on these two ridges was 30 per cent. superior to the rest of the field, and I used the lime for years on similar and on different soils, and always with the same result. I never enquired if the lime was septic or anti-septic, an alternative or a stimulant; I brought the two into immediate contact, the land and lime as fine as possible that they might thoroughly incorporate. The truth of the assertion of this lime being hurtful was here completely disproved, and I am of opinion that twenty-five bushels of the substance that is known to be most injurious to vegetable life, spread over an acre of land would have no effect whatever. Mr. Handley and the writer of British Husbandry seem to have adopted this opinion without regular proof, on the prejudiced report of some bungling farmer who neglected to clean his lands, and then weeds grew, who misapplied both the lime and the land, and who neglected to form in the soil that finely blended matrix of mould and manures, in which the roots of plants delight. And I have ever been of opinion that it would be an immense improvement if putrescent manures could be reduced and blended intimately with the soil, for we know enough of the nature of the food of plants to suppose that it must be in a state of solution and of most

minute subdivision. This prejudice against magnesian lime goes forth to the world sanctioned by the authority of a society to whose name no small share of wisdom and liberality has been attached.

In the conclusion Mr. Handley sums the whole matter by inquiring what manures are best fitted to supply the deficiency in the fertilizing properties of the soil, and what is the food of plants, without a knowledge of which the farmer is like a mariner without his compass. The latter conclusion seems rather illogical, the two persons appear to be in similar situations, the mariner does not know the natural principle which directs the point of the needle to the magnetic pole, but he knows it suits his purpose, and that with the assistance of it he can conduct a ship to any place in the known world. In like manner the farmer does not know how the manures he applies act in the soil, but he knows they suit his purpose, and that the greater the quantity he can apply the greater produce he derives. If we knew exactly what the food of plants is, it would only satisfy our curiosity; it could not suggest a better way of applying the manure, and it could convey no intelligence as to what different mode of application would supply to the plant a greater quantity of the substance it extracts in the present form of the manure. The nature and the formation of the gastric fluid, and the changes which food undergoes in the four stomachs of ruminating animals is an inquiry of a similar nature, and both may probably be some of the arcana of nature through which the human eye may never be able to penetrate.

But the farmer knows that manures, if he can get them, increase his produce; that food fattens animals, by whatever process; and that, if he can raise one bushel of wheat more on an acre of land than he did before, and if he can feed five oxen in place of four, he adds to his profits, and to the quantity of food for the human race. The history of agriculture does not furnish one single instance of any assistance from science. The practice, as Mr. Handley observes, has been derived from fortuitous results, and chemists have been latterly employed in accounting for facts already known. Their arguments—a posteriori, proving the law from the fact—resemble the *reductio ad absurdum* of the geometricians, by which to suppose any other truth than that advanced would involve a contradiction or absurdity. Our best chemists cannot farm, and our best farmers are no chemists. There is a wide difference between farming operations and applying a chemical solution to the bleaching of cloth in a factory; the connection is more simple, and the process of application much easier, and not liable to half so many uncontrollable causes to mar and influence the results. I would not be understood as wishing to throw any disparagement on science, for I believe that, under the direction of such a society as is proposed, it may work great changes; but merely to recommend never to lose sight of the solid substance for the shadow, and to push to the utmost every known improvement joined to and assisted by every suggestion that science can offer, and which will stand the test of sound practical judgement. The unceasing efforts of genius in endeavouring to explain the mysteries of nature, encourage the hope that great discoveries may yet be made, and that the food of plants may soon be as well known as many other subjects which, half a century ago, were reckoned equally obscure. But on these subjects it would be presumptuous to be sanguine and unphilosophical to despair.

Why our present knowledge of the means of cultivation is not pushed above half its extent—why we have millions of acres of good land, commons, &c., lying uncultivated, while our population is half-starved, quarter-starved, and starved to death, while others are shut up in bastilles in order to try how far below zero, on the scale of sustentation, food may be withheld, and for how long the least possible quantity of porky-water and bread will keep body and soul together—is an inquiry, in my humble opinion, of much greater importance than a minute investigation into the nature of the food for plants, or the formation of the gastric fluid. In Ireland a number die annually of starvation

because the people are not allowed to cultivate the land; and even during a famine food would be exported to pay the rents of the absentee landowners. No such effect could result without gross mismanagement somewhere; and Mr. Blacker, in his admirable pamphlets, has not failed to set the matter in its true light with his accustomed ability, and has clearly shown, that with ordinary cultivation Ireland would maintain five times the present population. With those persons who will not cultivate land themselves, nor allow it to be cultivated, a fearful responsibility must rest. It is a maxim in every profession, art, and science, that the practitioners must be regularly educated for the business: in agriculture it is wholly disregarded, for among land-stewards we find bankers, lawyers, commercial and military men, who are as ignorant of the business as a Hottentot or a Patagonian. Among the bailiffs of proprietors we find the same motley group; and I know a nobleman in England who lately employed a disbanded seaman to manage his farm. How, it may be asked, can agriculture or any art advance with such practitioners? When do we hear of a manufacturer employing a seaman or a publican to superintend his manufactory? He would laugh him to scorn. Some few years ago, I knew a nobleman's agent, who farmed extensively, to show the farmers an example, and lost many more hundreds of pounds than the number of years he had farmed—a very likely result from a banker as agent and an old publican as bailiff. The same nobleman got a bailiff to introduce the convertible system on his own farm; and after he had improved the land, and paid ten shillings an acre more rent than land of equal quality, he relinquished farming because the bailiff had paid too much rent, and because he had not followed the custom of the country, and the example shown him, viz., to lose money. The farming shown by gentlemen and land-stewards is very often worse than the worst of the farmers. I have known land let for four years cropping, and then sown with seeds from a hay granary to become old turf. And, it may be asked, how can they recommend a better system, when they do not adopt it themselves? Sir F. Burdett tells us, the clergy impart a blessing to the land. If so, he has sadly neglected to procure a blessing on his own; for he has got some of the best land and worst cultivated in England. Were this true, it might be the quickest process of improvement yet known; but probably benedictions, like the papal ones of old, are expensive, and may be rejected on the usual ground of cost. The provincial meetings, called agricultural, are merely renewals of every dogma and opinion that has been sanctioned by authority and confirmed by power. There are many members but few farmers. The clergyman blesses the dinner and the old turf (with reverence be it spoken), and watches that no new heterodox opinions are broached on any subject contrary to the standard. The viands and wines are praised to the skies, and the farmers return home fully persuaded that everything is perfect, and that any alteration would be absurd, theoretical, and ruinous.

I am, &c.,
RUSTICUS.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—May I beg a small space in your next magazine, to inform your correspondent J. D. (and others that may by his remarks have been misled,) that he has both read an incorrect report, and put a wrong construction upon my observations, or I think he would not have charged me with "importing one of the most extravagant ideas ever entertained by any human being;" namely, that "the Scotch farmers, before sowing a field with any crop, sent a portion of it to be analyzed by a chemist, in

order to ascertain if it contained the four gases necessary for fertilizing." Had I made such an assertion, so at variance with fact, or practicability, surely some one present would, "so far have had their eyes and ears open," as to have asked how can that be done?

It is far from my intention to enter into a controversy, or in any way to quarrel with J. D.; for with many of his observations in the article headed, "Agricultural Improvement," I fully agree. That article appears to me to tend to this, that in order to place farming on a sound and prosperous basis, we must have equitable rents—more capital in the land, and that skillfully employed, with the use of every improved implement, and machine, thus helping ourselves rather than calling upon others to help us. If, for instance, by the use of a threshing machine, 100 qrs. of wheat can be threshed for two shillings less than by flail, and be brought to market two shillings per qr. better—which, experience tells me it can—there is at once a saving of 20*l.* to spend in productive labour. It was with a feeling of the insufficiency of our Agricultural Association, as at present supported, to give suitable encouragement to improvements in Agriculture, rewards for the invention of better machines, implements, &c., and information connected therewith—that I ventured to direct the attention of those present to the manner in which our Northern brethren were going on; what attention they paid to their Agricultural Societies, not only giving prizes for stock, but for inventions and improvements in husbandry, and having a museum containing models of every improved implement, and of all kinds and varieties of grain, showing the corn, the ripened ear, and the straw, with an account of the produce, and the soil best adapted for their cultivation. They even went so far as to exhibit specimens of their soils; not only the upper but the subsoils. I then quoted Mr. Burges's observations in a recent lecture, "that in order to grow corn, there must be four gases in the soil," and observed, what did I know about these gases? The Scotch Agricultural Society, employed a chemist to analyze the specimens of their soils, (meaning those collected in the Stirling Museum), who told them there was such a portion of this gas in one and such in another, we in these matters went blind-fold to work. As a practical farmer I knew about ploughing, drilling, sowing, &c.; and might have added, I have done my full share of each. I also know when I had a piece of land that yielded me but a poor crop, and that of a bad quality; but I went to work to clay it (viz. to cart a portion of the subsoil and mix with the surface), without any correct knowledge of the quantity required to produce the desired effects. Now as there are every year many thousand loads of clay carted on the land in this immediate neighbourhood, and have been for many years past, yet a variety of opinion still exists as to the quantity that ought to be laid or per acre—which appears mainly to depend on the description of clay carried, and what surface it is carried on, surely the aid of chemistry might be advantageously called in to give some important information in such cases? I was a few days since told by a practical farmer, that some years since, he clayed his land and found it greatly improved thereby; in the course of time he clayed it again, when he was not only all the cost out of pocket, but he believed the land was actually the worse. For these reasons, I was of opinion that (even though it be true, as J. D. asserts, that not an acre of land was ever improved by the suggestion of a chemist), the aid of one might have, and still may assist in im-

proving many. And if the landlords of England would unite, as it is their interest above all others to do, and persevere in bringing every practical improvement forward, making science to go hand and hand therewith, they would find their estates improve, their tenants prosper, and be better able to pay their rents.

Yours obediently,
Feb. 21. GEO. GAYFORD.

THE GLOBE MANGEL WURZEL.

Huntingdon, Feb. 21.

SIR,—Having read in the columns of your valuable Journal of the great superiority of the Globe Mangel Wurzel—for stock in winter—I should feel greatly obliged if you, Sir, or any of your Correspondents would inform me of the best method of cultivating, if with the previous tillage necessary, time and manner of sowing, and the soil best adapted for it. As I am not able to obtain this information in my own neighbourhood, and being anxious to give it a fair trial.

I am, Sir, Your most obedient Servant,
A SUBSCRIBER.

THE GLOBE MANGEL WURZEL.

SIR,—It is not without some degree of hesitation that I have ventured to add another to the list of your already numerous correspondents; but having read in your magazine for the present month, (February,) an article on the globe mangel wurzel, I have ventured to make use of the columns of your valuable journal, to request some information with regard to the cultivation of that root. Your correspondent to whom I allude, has spoken largely of the decided superiority, both in respect to quantity and quality of the globe mangel wurzel over the long, but with regard to the mode of its cultivation, he has been silent. To the majority of your numerous readers no doubt your correspondent considered that to enlarge upon that head, would have been superfluous, yet I cannot but think, that to many, who like myself, are young in farming, and younger still, in the cultivation of green crops, a few practical hints would not have been unseasonable.

With regard to manure, I would ask, whether bone dust might be used with advantage; whether drilled, dibbled, or sown broad-cast is preferable. About what time is considered best for sowing; what quantity of seed per acre; what soils are most calculated to ensure a good crop; and lastly, the method of storing it for the winter.

As your correspondent is not a constant reader of your journal, probably this may not meet his eye, yet amongst your numerous intelligent readers, there may be one who will condescend through the columns of your journal, to give a few practical hints on the questions I have proposed.

By inserting the above in your widely circulated journal, you will greatly oblige, your's respectfully,

A YOUNG FARMER.

Feb. 21.

YORKSHIRE AGRICULTURAL SOCIETY.

19TH DECEMBER, 1837.

PRESIDENT—EARL SPENCER.

VICE-PRESIDENTS.

For the East Riding . . . EARL OF CARLISLE.
For the North Riding . . { DUKE OF LEEDS.
 { LORD FEVERSHAM.
For the West Riding . . { EARL FITZWILLIAM.
 { EARL OF HAREWOOD.

COMMITTEE PRESENT.

J. W. CHILDERS, Esq.,	W. F. PALEY, Esq.
M. P.	REV. ARMITAGE RHODES.
THOMAS CHARGE, Esq.	R. F. SHAW, Esq.
SIR W. COOKE, BART.	G. SWANN, Esq.
ROBERT DENISON, Esq.	H. S. THOMPSON, Esq.
T. S. DUNCOMBE, Esq.	HON. SIR E. VAVASOUR,
HENRY EDWARDS, Esq.	BART.
F. H. FAWKES, Esq.	G. WENTWORTH, Esq.
REV. THOMAS HARRISON.	J. WHITAKER, Esq.
G. LEGARD, Esq.	SAMUEL WILEY, Esq.
W. C. MAXWELL, Esq.	

The Committee, in publishing the premiums which they feel justified in offering under the existing circumstances of the Society, regret that, from the want of that support which they had expected from the County, they are unable to promote many objects which they consider ought to be the province of a Society constituted on the principles of the Yorkshire Society.

They feel that, in order to be of the use which the Committee propose to themselves, the Members should amount, at least, to from 500 to 1000, and that they ought to have correspondents in, and receive great assistance from, every town in the county. If the society should receive this degree of support, they hope to be able from year to year, to enlarge the sphere of their labours, and to turn their attention, by the distribution of premiums, to other subjects besides the breed of stock, which, though a very valuable, they do not consider by any means as the most important, branch of the many objects of their society.

They feel that the improvement of Machinery, in *all its departments* as applicable to agriculture, is a subject which ought to engage more particularly the attention of a society established in a county so abounding in manufactures and in good machinists as Yorkshire. The quality of wool is another point for the consideration of which a clothing district offers peculiar advantages. The promoting of good farming generally, and that not merely to the large farmer, but *more especially to the small farmer*, who has not always been equally considered, though in greater need of encouragement.

Arboriculture in all its various branches, and particularly the management of woods and plantations; the incitement to neatness and order in the arrangement of cottages, and the gardens or crofts attached to them; the improvement of ploughing, and other agricultural operations; irrigation, draining, and increasing the fertility of the soil by judicious admixtures; the keeping of farm horses; the economical rearing, feeding, and fattening of other live stock; and, in a word, all the details of agriculture, and all the means by which the cost of farming can be diminished, and its products increased, will be the objects which they propose to themselves.

The Doncaster Society has furnished very valuable reports, by means of numerous queries sent out, and by having the answers arranged and collated; and that is a mode of inquiry which the committee strongly recommend and purpose hereafter to pursue.

The premiums advertised below do, in fact, embrace the subjects of draining, new implements, new roots and seeds, laying arable land down to permanent grass, road-making, and of insects noxious to agriculture; and the committee trust, if it appear to the reflecting part of the inhabitants of Yorkshire, that they are proceeding in the path that has been so eminently successful in the Highland and Agricultural Society of Scotland, which now numbers *three thousand* subscribers, that they may receive that support and zealous co-operation, without which the Yorkshire Society feels that its objects will be defeated, and its efforts ineffectual.

It is probable that the second meeting of the society will be held in one of the large towns of the West-Riding, as it is believed that, besides the agricultural population which naturally surrounds every large town, a great interest is taken in these subjects by the inhabitants of the great towns themselves.

At a Meeting of the Committee, held this 19th day of December, at the Black Swan Hotel, York, —Robert Denison, Esq., in the chair,—It was resolved, that the First Annual Meeting for the Exhibition of Farming Stock, Implements, &c. to be held at York, on the last Wednesday in August, 1838, the following Premiums be offered:—

SHORT-HORNED CATTLE.

- For the best bull of any age, 25*l.*; second ditto, 10*l.*
- For the best two years old bull, 15*l.*; second ditto, 5*l.*
- For the best yearling bull, 10*l.*; second ditto, 5*l.*
- For the best cow of any age, in calf or milk, 10*l.*; second ditto, 5*l.*
- For the best cow, three years old, in ditto, 10*l.*; second ditto, 5*l.*
- For the best two years old heifer, in calf, 10*l.*; second ditto, 5*l.*
- For the best yearling heifer, 10*l.*; second do. 5*l.*

All bulls to have been bred by the candidate, or to have been his property for twelve months, or have been hired by him for at least six months. The bull which may gain the first prize, to be retained in the County for nine months after the show, and to serve, if required, sixty cows, belonging to members, at a sum not exceeding one sovereign each; and if removed within that period, the premium shall be returned. Cows and heifers to have been bred by the candidate, or to have been in his possession for twelve months previous to the show; or if a yearling, from its birth.

LEICESTER SHEEP.

- For the best shearing ram, 20*l.*; second do., 10*l.*
- For the best two shear ram, 15*l.*; second do., 7*l.*
- For the best pen of five ewes, 7*l.*; second do., 3*l.*
- For the best pen of five shearing wethers, 7*l.*; second do., 3*l.*
- For the best pen of five gimmers, 7*l.*; second do., 3*l.*

PIGS.

- For best boar, large breed, 3*l.*; second do. 1*l.*
- For the best sow, do., 3*l.*; second do., 1*l.*
- For the best boar, small breed, 3*l.*; second do., 1*l.*
- For the best sow, do., 3*l.*; second do., 1*l.*

HORSES.

- For the best stallion for hunters, 10*l.*; second do., 5*l.*

For the best stallion for coach-horses, 10*l.*; second do., 5*l.*

For the best stallion for roadsters, 10*l.*; second do., 5*l.*

For the best stallion for agricultural purposes, 5*l.*; second do. 2*l.*

For the best mare for hunting, 5*l.*; second do., 2*l.*

For the best mare for coaching, 5*l.*; second do., 2*l.*

For the best mare for road, 5*l.*; second do., 2*l.*

For the best mare for draught, 5*l.*; second do., 2*l.*

For the best three years old colt for hunting, 5*l.*; second do., 2*l.*

For the best two years old colt for do., 5*l.*; second do., 2*l.*

For the best three years old colt for coaching, 5*l.*; second do., 2*l.*

For the best two year old colt for do., 5*l.*; second do., 2*l.*

The stallion which may gain the first premium, in each class, shall serve mares in the county the following season, or the premium to be returned.

Certificates of age and other circumstances to be delivered to the secretary.

To the tenant of the best cultivated farm in Yorkshire, of 100 acres or upwards, 20*l.*

To the tenant of the best cultivated farm in Yorkshire, of from 50 to 100 acres, strong land, 15*l.*

To the tenant of the best cultivated farm in Yorkshire, of from 50 to 100 acres, turnip soil, 10*l.*

Competitors for these premiums must send in their claim to the secretary, on or before the 1st of May, and must be prepared to show, in writing, to the judges who may be appointed to decide these premiums, the quality of the soil, the mode of cultivation adopted for the last five years, detailing the course of crops, the description of manure applied, the estimated amount in bushels of the corn crops, the estimated weight of the green crops, and the details of any peculiar improvements which have brought the land to its present state of fertility.

To the tenant who, within the last five years, shall have drained in the most effectual, judicious, and economical manner, the largest quantity of land in proportion to his occupation, 10*l.*

Competitors for this premium must detail the expenses incurred, and send in their claim to the Secretary, on or before the 1st of May.

For a detailed report of the best mode of cultivation upon which a farm of strong land, in the county of York has been actually managed, 10*l.*

For a detailed report of the best and most successful manner in which a plot of arable land, not less than ten acres has been laid down to permanent grass, 10*l.*

These reports must contain a detailed account of the expenses incurred, and must be delivered to the Secretary, on or before the 1st June.

For a report of the natural history of the black caterpillar, and also of the best means to be adopted in order to effectually avoid its ravages, 15*l.*

For a report on the natural history of the wireworm, and also of the best means to be adopted in order to effectually avoid its ravages, 5*l.*

Competitors for these premiums, besides giving the Natural history and entomological description of these insects, must state facts of actual experience with respect to the manner of checking their ravages.

For a report containing the best practical information on the subject of forming, improving, and repairing public high roads, not being turnpike roads, a medal, value 2*l.*

The competitors for this premium must state the comparative expense of roads under different systems, and

give accurate details as to the quantity and price of labour and materials expended upon them; and these facts must be founded, as much as possible on actual experience.

For the invention and improvement of such agricultural implements, as may appear to the committee to deserve reward; also for new or improved varieties of agricultural roots, grain, and other seeds, in various sums the amount of 60*l*.

Persons intending to exhibit implements, roots, or seeds, must communicate with the Secretary, and lodge with him a memorandum descriptive of the articles to be shewn, at least five days before the meeting.

To the labourer in husbandry (who has not occupied more than half an acre of land) who has brought up and placed out to service the greatest number of children without receiving parochial relief, a certificate of which to be produced, 5*l*.

To the second approved candidate, 3*l*.

To the first approved female servant in husbandry, 3*l*.

To the second approved candidate in do. 2*l*.

To the first approved shepherd, (being an annual servant) who has reared the greatest proportionate number of lambs, from not less than 100 ewes, 3*l*.

To the second approved candidate, 1*l*.

Competitors for these premiums, must send in their certificates to the Secretary not later than the Saturday preceding the show. Morality and intelligence will be taken into consideration by the judges.

SWEEPSTAKES FROM ONE TO TWO SOVEREIGNS
EACH HAVE BEEN ENTERED INTO, VIZ :—

- 2 sovereigns for the best yearling bull.
- 2 sovereigns for the best two-years-old heifer.
- 2 sovereigns for the best yearling heifer.
- 2 sovereigns for the best heifer calf.
- 1 sovereign for the best sow in pig, small breed.
- 1 sovereign for the best shearling ram.
- 1 sovereign for the best pen of five shearling gimmers.
- 1 sovereign for the best roadster stallion.
- 1 sovereign for the best three-years-old coaching colt.
- 1 sovereign for the best two years old coaching colt.

PRESENT SUBSCRIBERS.

CHILDERS, J. W. Esq., M.P.	MAXWELL, W. C. Esq.
COOKE, Sir W., Bart.	SHAW, R. F., Esq.
DENNISON, ROBT., Esq.	SWANN, GEO., Esq.
EDWARDS, HENRY.	TEMPEST, CHAS. Esq.
FAWKES, F. H., Esq.	VAVASOUR, Hon. Sir E., Bart.
HARRISON, Rev. THOS.	WENTWORTH, G., Esq.
HOWARD CHARLES.	WILEY, SAMUEL.
LEGARD, GEO., Esq.	

* * Additional sweepstakes, not exceeding two sovereigns each, will be opened on the application of any member to the secretary.

This society is open to subscribers from all parts of the United Kingdom.

No stock to be admitted into the show-yard after eight o'clock, or without a ticket from the secretary.

Non-subscribers to pay ten shillings for every head or lot of live stock, before obtaining a ticket of permission to bring their cattle into the show-yard.

Entry for horses, cattle, and sheep, to be sent to the secretary, on the Saturday previous to the exhibition.

Gentlemen desirous of competing for the premiums, entering for the sweepstakes, or obtaining

further information relative to these or other matters connected with the society, are requested to address, *post-paid*, to Charles Howard, Secretary, Melbourne, York, or 14, Monkgate, York.

Present amount of donations, 525*l*.; ditto of annual subscribers. 229*l*.

LAMBING SEASON.

The period of lambing having commenced, the attention of the lamher should be increased. He should carefully observe every ewe that appears to be in labour. While she walks about and does not exhibit any extraordinary degree of suffering, he should not interfere; nor should he do so if she rises when he approaches, and walks away, unless her labour has been protracted twenty hours or more. He should not be in haste to render his assistance, although she should be continually lying down and getting up again, and showing more impatience or irritability than actual pain: but if her strength appears to be declining, his immediate aid is required. If he has to drive her to the fold or pound, it should be as gently as possible, or he should drive some others with her, in order that she may not be frightened by being alone selected. The early interference of the lamher is always prejudicial, and very frequently fatal. Nature, in the course of twenty or twenty-four hours will, in the great majority of cases, accomplish that which cannot be hurried on by art without extreme danger.

The state of the weather will cause a very considerable difference in the duration of the labour. When the weather is cold and dry, and especially if the situation is somewhat exposed, the progress of the labour will be slow—the throes will be comparatively weak and ineffectual, and the ewe may and should be left a considerable time before mechanical assistance is rendered. When, however, the weather is warm, and especially if, at the same time, it is moist, the throes will be violent, and the strength of the sufferer will be very rapidly wasted; there will be a dangerous tendency to inflammation, and the aid of the lamher is speedily required. Except under these circumstances, no motive of curiosity, no desire to know how the affair is going on, should induce the lamher to interfere while the throes are natural and the strength continues, unless it is evident, without handling the ewe, that a false presentation, or some mechanical cause, prevents the expulsion of the fetus. When the ewe is nearly exhausted, she will often suffer the lamher to kneel beside her and successfully afford the requisite assistance. If there is a violent struggle between the patient and the lamher, the fetus will often be destroyed; but his help, when she quietly submits to him, will rarely fail to preserve the mother and her offspring. Let it be supposed that, from certain circumstances, she is driven to the pound, or that she is lying quietly by the lamher in the field. He should first endeavour to ascertain the nature of the presentation. Is the lamb coming the right way, with its muzzle first and a forefoot on each side of it? If the tongue is not protruding from the mouth and becoming almost black, and her strength is not quite wasted, a table-spoonful of his cordial, with double this quantity of the infusion, will probably increase or recall the pains; and the lamb will soon be born. If this is not effected in a quarter of an hour, a second dose of the infusion should be given; and, that being followed by no good result, he should try what mechanical assist-

ance will do. He should draw down first one leg and then the other, endeavouring with his finger to solicit or coax the head onward at the same time. If he cannot readily get at the legs, he should push the head of the lamb a little backwards and downwards, when he will probably be enabled to grasp them. If he does not now succeed, the cause of the obstruction will be sufficiently plain, namely, the too great largeness of the head, which cannot readily pass the arch of the pubis; and, therefore, either tying the legs of the ewe, or an assistant keeping her down on her right side, the lamher should grasp the two fore-legs in one hand, and, with one or two fingers of the other, introduced into the vagina by the side of the head, urge it forward with as much force as is consistent with the safety of the lamb. The young one will rarely fail to be extracted by these means, except the head very much exceeds the common size.

The false presentations are not numerous in the ewe, and they are usually accounted for with tolerable readiness. When the ewe in-lamb has been violently hunted by a dog—whether occasioned by the thoughtlessness or brutality of the shepherd, or his boy, or the natural ferocity of the animal—it may be readily conceived how much the situation of the fœtus may be disarranged by the leaps and falls of the sheep. The author has more than once fancied that he could trace a connexion between the unnecessary and rough handling of the shepherd, in the early period of parturition or before the commencement of it, and an altered position of the fœtus. The clatting is a necessary operation, but there needs not a tenth part of the violence that is sometimes used. The connexion between these circumstances is of so frequent occurrence, that, on this account alone, some sheep-masters defer the clatting until after the dropping of the lamb.

The most usual false presentations are,—the side of the lamb pressing against the mouth of the womb, which may be readily detected by feeling the ribs—or the back, and then the bones of the spine can scarcely be mistaken—or the breech, when the bones of the haunch will be immediately recognised. The hand, well oiled or greased, should be introduced into the vagina, and, the fœtus being pushed a little back, one of the legs will probably be felt, and may easily be drawn into the passage. Being held there with the left hand, the corresponding leg must be got at likewise, and brought into the passage; after which the delivery will usually be effected without any great degree of trouble. The most dangerous presentations, and the most difficult to manage, are the crown of the head and the breech. In both cases the lamb must be pushed back into the womb. The head must then be raised with the fingers, and brought into the passage in the former case, and in the latter the lamb must be pushed far enough into the womb, to enable the shepherd to bring down the hind legs, a work not always easily accomplished, or to be accomplished at all, on account of the manner in which they are extended under the belly. The principal loss in lambing is to be traced to one or the other of these presentations, and chiefly to the latter.

The lamb having been placed in its natural position, and the labour pains being strong, much may be left to nature; the strength of the animal being supported, and the pains rendered more regular and effective by small doses of ginger and the ergot of rye. The position, however, being unnatural, manual assistance cannot be too early afforded. The lamher should not use more force than is absolutely necessary in order to draw away the lamb; yet a considerable degree of it may be quietly employed

without endangering the life of either the mother or the offspring. If the ewe is nearly exhausted, the application of this force is imperiously required.

Difficulty sometimes occurs in cases of twin lambs. They may both present at the same time, either naturally or otherwise. The one that is least advanced must be returned, and the other extracted as speedily as circumstances will permit. The lamb that was returned may then be left to the power of nature, and will speedily follow.

As soon as it can be ascertained that the lamb is dead within the mother, means must be taken for its extraction. There are instances in which the dead lamb has been retained in the womb during a considerable period of time, or, even during the life of the mother, but they are rare; the animal has seldom thriven well; and, in the greater majority of cases, she has pined away and died. The fœtus may sometimes be extracted by the hand; at other times a blunt-pointed knife, and an instrument somewhat resembling a large button-hook, are necessary.—Library of Useful Knowledge.

ECONOMY IN LABOUR AND IMPROVEMENT OF SYSTEM.

While every other class of the community are using all the means within their power to lessen the expence of producing the articles of their manufacture, the farmer still goes on in his old beaten track, never enquiring whether he cannot accomplish his labour with less actual, but more efficient strength of horses and men; or whether other implements are not preferable to those he has now in use.

Thus, while the expence of all other occupations have been reduced from one-half to a tenth part of what they used to be, the expences of the farmer have in many instances been increased.

Most farmers limit their expenditure to the absolute necessities required in their mode of culture instead of laying out fresh capital in attempting to increase the productiveness of the soil. Their views have extended no farther than the next crop, a quick return being their only object, even where it would not pay the expence of production, or looking perhaps to the chapter of accidents, or waiting to see what Government will do for their relief.

This they continue to do, obtaining only a scanty crop which is dear to the buyer and unprofitable to the grower; instead of producing, by an outlay of additional capital on improved culture, a plentiful crop which would be cheap to the consumer and profitable to themselves.

But farmers in general adopt the custom of the neighbourhood in which they live, in the course of husbandry and general management of their farms; and they follow the footsteps of their fathers in this respect more pertinaciously than any other class of society; and while improvements in all other arts and manufactures are going on at so rapid a rate, that of agriculture lags far behind.

When a farmer does not improve the land he cultivates, it is evident that something is wrong in the system he adopts; it may be owing to his ignorance of the best mode of cultivating the particular soil of which his farm consists—the want of capital, or even a determination not to lay out his capital to improve another man's land, which we have often heard expressed, and by those that are reckoned intelligent and liberal farmers, although we cannot perceive the mark either of intelligence or liberality in persons who hold such sentiments.

The sands of Norfolk and Suffolk have been so much improved by the application of clay, marl, or chalk, and the alternate system of husbandry, that a crop of turnips is now produced on some land, equal in value to the previous fee simple of the same soil; while the rich clay land in the vale of the White-horse in Berks, and in the vale of Gloucester, remains without any increase of its productive powers, and is still cultivated with from 3 to 6 horses in a plough.

The Norfolk system of ploughing with two horses abreast, was introduced into Roxburghshire in 1762, by Mr Dawson of Frogdon; it soon spread over the greater part of Scotland, and has been continued as the most efficient mode of cultivating every kind of soil, from the lightest sand to the strongest and most tenacious clay.

Tull's system of drilling turnips, as well as ploughing with two horses abreast, was carried by Mr. Dawson into the northern counties of England; but to the present day, these improvements in agriculture have made very little progress in the southern counties. Two horses are very seldom to be seen at work abreast in a plough; we generally observe three or four at work in a plough even on the lightest soil in Berks and other counties, and these of a heavy description of animals, whose natural pace is seldom more than one mile an hour; so that it is with considerable exertion that these three or four horses with a man and a boy, and a most cumbersome plough, turn over three-fourths of an acre a day while two light active horses plough with the greatest ease upwards of an acre every day, and even two acres in the fallow field.

The reason why improvement in agriculture proceeds at a much slower rate than improvements in many other sciences, is in fact owing to the very little intercourse there is amongst farmers themselves.

The English farmers in general are not readers, they therefore lose all the recorded improvements of individuals, or of agricultural societies. There is no system of education adopted in England, whereby the first principles of agriculture may be acquired; the only agricultural education therefore which the farmer receives, is from the practice of his father, and that of the neighbourhood in which he dwells, and which has been handed down unadulterated and unimproved through many generations, and adhered to with an obstinacy which no reason can induce him to give up or change.

The prejudices of the farmer in favour of the mode of culture which he follows, and against all those whose modes are different, although they are performed at one-half of the expence, and produce as much or a greater return, and although only a few miles distant from him, are of the most pertinacious kind, and will never be got rid of, till some dire necessity compels him to open his eyes to see his own interest; nothing but this we are persuaded will ever induce many to change their present habits.

The produce of agriculture may easily be increased, even doubled; and in almost every instance, the expence of production may be diminished. By reducing the expence of production, we set free an additional portion of the produce, and this is just the same as if, with the original expence, we produced a greater crop; therefore none but the most efficient labour either of man, or beast, or implements, should ever be employed.

If farmers would adopt this plan, it is evident that the greater the amount of productive and efficient labour they use, the greater will be their return; all useless expences should be extinguished, and the most efficient mode of accomplishing any labour should be adopted.—*Morton on Soils.*

SCIENCE OF AGRICULTURE.

CALCAREOUS SUBSTANCES.—Having now gone over the leading subjects connected with the soil, and shown what are the general characters of the native staple earths of England, and the operations of manure, as the decomposable medium by which those earths are converted into nutritive soil, we might proceed at once to the proof of those facts which it is the province of agricultural chemistry to elucidate. Something, however, remains to be said upon calcareous substances, not only because they exist in a great variety of forms, are the first sought for in the process of analysis, and are very abundant in a great many vegetable substances; but inasmuch as this total absence from a soil has been shown to be productive of absolute sterility. The knowledge of chemistry to a certain extent has been vitally important to the welfare of agriculture; of this most satisfactory evidence is furnished by the able essays of a Mr. Edmund Ruffin, of the United States of America. These appeared in the pages of the *British Farmer's Magazine* of 1835, and I beg to refer the reader who may possess that work, to Nos. 36, 37, 38; for, however valuable the matter which they contain, it is impossible to extract, to any great extent, those luminous remarks which characterised the essays. I promised, in a previous article, to allude to them, and I do so now, chiefly, however, to show that in America, a vast extent of land is sterile from the absence of calcareous earth, and the preponderance of those decomposable substances, which are generally supposed to be the basis of fertility. Mr. Ruffin offers five leading propositions, which, though applied to a foreign and far distant region, must possess great interest with the agricultural chemist of our more favoured land.

Proposition 1. "*Soils naturally poor, and rich soils reduced to poverty by cultivation, are essentially different in their powers of retaining putrescent manures; and under like circumstances, the fitness of any soil to be enriched by these manures, is in proportion to what was its natural fertility.*"

This proposition is based upon the fact advocated by me, that the nature of any, or all the *native earths*, is never changed by decomposable manures, and therefore that land, be its qualities what they may, remains unaltered; and when the manures have been removed by cropping, conjointly with atmospheric action, it reverts to its original condition; sand remains sand, clay remains clay, and so on, neither improved nor deteriorated.

2. "*The natural sterility of the soils of Lower Virginia is caused by such soils being destitute of calcareous earth, and their being injured by the presence and effects of vegetable acid. By the term calcareous earth, chalk, or carbonate of lime, and pure or quick lime, are alluded to. It has been denied by writers that any loose or free acid ever exists in a soil, but there are many acid-producing vegetables, as the sorrels; and many inert, peaty soils, which contain all the elements of acids. Mr. Ruffin claims the admission of these facts, and he cites the authority of Sir H. Davy, that 'farm-yard manure, and all other putrescent and vegetable substances, form acetic acid as their decomposition proceeds.'*" This is true, as is, moreover, the fact, that *chalk* is abundantly present in the ashes of vegetables which grew upon soils wherein chemical tests could detect no indications of the existence of calcareous earth. "All the carbonate of lime yielded by ashes, was necessarily furnished in some form by the soil in which the plants grew, and when the soil itself contained no carbonate (*chalk*), some other compound of lime must have been present to

enable us to account for the certain and invariable results. The presence of a combination of lime with some *vegetable* acid, and none other, would serve to produce such effects." I quote the above as an example of the argumentative style of the writer: his practical deductions are still more decisive of the value of chemistry.

3. "The fertilizing effects of calcareous earth are chiefly produced by its power of neutralising acids, and of combining putrescent manures with soils, between which there would otherwise be but little, if any, chemical attraction."

4. "Poor and acid soils cannot be improved durably or profitably, by putrescent manure, without previously making them calcareous, and thereby correcting the defect in their constitution."

5. "Calcareous manures will give to our worst soils a power of retaining putrescent manures equal to that of the best, and will cause more productiveness than any other improvement practicable in Lower Virginia."

The third proposition comprises more than has heretofore been admitted, chalk having been viewed, chiefly, as a meliorator of the texture of sandy and clayey soils; but, if, as Mr. Ruffin believes, it combines chemically with the oleaginous and extractive fluids of manures, animal and vegetable, and forms a combination, which "neither air, sun, nor rain" can destroy, it then becomes of great importance, for "nothing can effect the separation of the parts of this compound manure, *except the attractive power of growing plants*, which, as all experience shows, will draw their food from this combination as fast as they require it, and as easily as from sand."

The fourth proposition is self-evident to the British agricultural chemist, for the facts demonstrate themselves by the utter worthlessness of cold, vegetable peat bogs, which inertness remains till they be reclaimed by drainage, and their superabundance of vegetable matter converted into manure by lime. The fifth proposition applies chiefly to America, but it tends to reinforce substantially the doctrine then for the first time practically adduced and confirmed.

One or two circumstances remain to be noticed: 1. If free acid, that is, *sourness* to the taste, be never traceable, in soils, certain it is, that chalk and lime tend to prevent its presence, and neutralise it in the nascent state: hence chalk is a valuable corrector of all land superabounding with vegetable matters. 2. If any one will take the trouble to wash the ashes of a common brick oven, he will detect in the clear liquor a quantity of pearlash, or vegetable alkali. Laundresses in a country town frequently use this solution, or "ley," for washing, and servants employ it to economise soap in scouring floors. *Potash*, therefore, or its elements, are found in ashes, though none could be traced in the ground whereon the trees grew. After washing away the potash from the wood-ashes, a little diluted spirit of salt will cause a violent effervescence with the remaining white sediment, and dissolve much of it. The portion dissolved is chalk. Now, this substance exists abundantly in the ashes of potato haulm, of tobacco, and, indeed, of most plants. But how has it been produced? I leave the inquiry with the curious reader, assuring him, that if he assiduously apply himself to such investigations, he will expand his mind and extend his sphere of usefulness. If the *agriculturists*, as a body, proceed in the same course of inquiry, we shall not long be without our own chemists; Mr. Ruffin's experience will be appreciated, and we shall seldom hear repeated the inquiry—"Of what use is chemistry to agriculture."—*Gardener's Gazette*.

Feb. 9.

PUBLIUS.

UNION AGRICULTURAL SOCIETY.—A general meeting of the members of this useful institution was held within the Gross Keys Inn, Kelso, on Friday fortnight, which was attended by many noblemen and gentlemen of rank, as well as by most of the leading agriculturists of the county. Amongst those present were the Earl of Home, the Lord Douglas, the Hon. H. F. Scott, David Robertson, Esq., of Ladykirk, George Baillie, Esq., younger, of Jerviswood, &c., &c. At this meeting an important change of one of the rules of the Society was unanimously agreed to; and in place of holding the annual meetings for the exhibition of Stock for Premiums, two years in succession at Kelso, for one at Coldstream or Cornhill, these exhibitions will in future be held alternately at Kelso and Coldstream, beginning this year with Coldstream. But it is to be in the option of the members to hold a meeting at Cornhill in place of Coldstream, in any year when such a change may be considered advisable, and be agreed to at a general meeting of the Society, by a majority present, and voting at such general meeting. This arrangement so liberally agreed to by the members of the Society in the western district, will, it is expected, draw to the Society from the south of the Tweed, and from the eastern parts of Berwickshire a considerable accession of subscribers. It was further agreed that the competition of ploughmen should take place in the district where the annual show of stock should be held. The meeting also agreed to continue the whole of four exhibitions of the Society, nearly in the same way as last year, which, from the economical management and satisfactory state of the funds, they were enabled to do. And finally, a committee was named to make arrangements for establishing a market for the sale of tups at Kelso, about the middle or end of September annually.—*Kelso Mail*.

PRESERVING ROOTS.—After potatoes and other roots are put into the cellar, they should be kept from the light and air. Some cellars are provided with glass windows, by which they are kept light through the winter, but roots of all kinds will not keep so well in such cellars unless they are put in close casks, boxes, bins or pens, and covered up closely. If there be a small quantity of live earth with roots in general when they are put into the cellar, and they are kept in the same condition as when taken out of the ground, without becoming dry they will remain sweet and good, but if they are dry and exposed to light or heat they lose their life, sweetness, and good qualities. Last fall we put beets, carrots, and turnips in close casks with earth, first a layer of earth, then a layer of roots, and they kept well and were as good in May as they were in the fall. These roots were all such kinds as do not usually keep well without some care. They were the early turnip-rooted beet, early horn carrot, and the common English and early garden stone turnip. We used pure live earth a foot or so from the surface, that it might be free from manure or other impurities.—*Yankee Farmer*.

TREATMENT OF BEES IN JANUARY.—The bees will be found more or less active this month according to the openness of the season. Should anything occur to render it necessary to inspect the inside of the hive, choose a fine dry day for the purpose, as *humidity* destroys more hives than *cold*. If a rustling noise is heard, it is a sign your bees are in good health; but should you discover blackish spots on the stool, you may consider it certain they are unhealthy, in which case it will be necessary to give them some food with an extra quantity of salt mixed in it. *The proper food for bees* is a pint of ale to a pound of sugar, and about half an ounce of salt; the whole boiled together and skimmed. When cold it will have the consistency of honey.

ON FARM-BUILDINGS AND LEASES.

Among the many improvements in agriculture during the last 50 years, no greater difference is visible in any department of the business than in the plan and construction of farm buildings. The increase of capital, and of the size of farms, rendered extensive alterations necessary; and, in many cases, the old and inconvenient dwellings have been exchanged for commodious and in many instances elegant erections, calculated to suit the accommodations necessary for an improved system of agriculture. The elegance of such buildings must, in a great measure, rest with the proprietors, and, in an economical point of view, should depend on the value of the land; for it is evident, that inferior soils cannot afford such outlays as more valuable lands, though there is certainly no reason why buildings on inferior lands should not be executed with the same view to convenience and durability, though on a more easy and economical scale. But even now it is rare to see a convenient and substantial range of buildings; and even where large sums have been expended in erecting extensive buildings, the most glaring blunders in contrivance and in reduction of labour are everywhere visible. Proprietors commit a similar mistake in this case, in having an architect to plan farm offices, as in entrusting lawyers with the management of landed property. No person doubts their skill in constructing gothic windows, spiral columns, or a pointed arch; but experience has shown that in the planning of farm-buildings, and in arranging the uses of the respective divisions, they are egregiously deficient. They almost invariably place the barn and rick-yard at opposite sides of an extensive farmery, and the stable and cart-shed also opposite; thus creating unnecessary labour, which might easily be avoided. The granary being over the cart-shed, at a distance from the barn, expense is incurred in carrying the thrashed grain from the barn to the granary, which is easily prevented by these buildings adjoining and communicating by an inside stair. Though these objections—the labour of carrying ricks to the barn from an unnecessary distance, carrying the grain to the granary, and the unnecessary travel of the horses—may appear trivial to an architect, if they ever did appear to him; yet an experienced farmer knows, that labour saved is money gained to be otherwise applied, and that it is a mighty desideratum to produce a certain result with the least possible power. Labour and force are uselessly applied when a smaller force applied to the same point under a different arrangement will produce the same result; and there remains a surplus of power to be applied to some other productive point. From want of arrangement even in the smallest matters, and from want of combining force on a point so as to produce a certain result in the shortest time and with the least possible power, much labour and expense are created; and on extensive farms it is the business of the farmer, no less than of the general of an army, to combine and direct the force under his command so as to afford him the greatest possible quantity of labour in a certain time. But if the minutiae of arrangement are not attended to, labour is squandered and the force of power is lost; and nothing more clearly shows the superiority of one person over another than their attention to and direction of what may appear trifles to many persons, but on which important results very often depend. Com-

bine 10 men or ploughs on a job, and they will carry one point after another, the most necessary always first; but, divide them into four parties, and there are so many points in view to be carried; day after day elapses and no point is finished, and probably some unfavourable event may occur and spoil the four processes, and none are productive of the result calculated upon. In the southern counties in England the farm buildings have been constructed, and are continued, without any regard to place, convenience, or situation. Taken collectively, they more resemble the wig-wams of an Indian, or the huts of a New Zealander, on a larger scale, than anything pertaining to the use for which they are intended. Built with timber and covered with straw, they create never ceasing expense in upholding them; and being patched with boards, and having one coat of straw laid on another, they soon became a huge mishapen mass, affording a nest for vermin, and excellent material for a conflagration. The houses are scattered and disjointed, and require much fencing to connect them; and are often placed on a declivity, as if purposely to discharge the moisture into a pond, or on a road. The manure is scattered about, and lies too thin, and often returns to nearly its original dry state. One yard is found cold and uncomfortable, and incapable of sheltering or confining stock; and much ground is unnecessarily occupied from want of contrivance, by patching one building on to the end of another without any regard to economy.

On a farm of 200 or 300 acres, two double-floored barns are required, or at least often found necessary, and will cost, including materials and workmanship, excepting carriage—

	£
One barn with two floors, and thatched	338
A single-floored barn	190
	£528
	£
Four-horse thrashing machine...	80
Barn, straw barn, and gangway, 90 feet long, 16 feet wide, and 15 feet high, of stone and lime walling, and tiled roof, exclusive of all carriage, and with thrashing barn floored and lofted	235
	£315 agst. £528

The estimates were made in Surrey by workmen engaged in large experience of such erections, and are decisive on that point. Here, with one double-floored barn, we have a difference of 23l. in favour of machinery in the first outlay. With two barns, often seen on a farm of 300 acres, there has been an expense of 676l. for barns, and then only thrashing the crop at double expense. The difference between 315l. and 676l., or 338l. or 528l., will surely settle this point of expense so often insisted on. Facts are truths; and these are facts beyond contradiction. Here is a sum of money double in amount to the other, producing the same result at double cost; a wise expenditure, certainly! and yet always held out as the wisest that can be found. But we shall still, in spite of all demonstration, be told of the expense of machinery, but will never be presented with any calculations; we see proprietors erect timber buildings, who have stone for the digging; farmers, and agents,

and lawyers, still of opinion that they must have such barns, and the landowner concluding that when he has so many opinions, he must be in the right path.

Expense of Machine per day :—

	£	s.	d.
Four horses and two men	1	0	0
One boy and odd horse to cart the corn	0	3	0
Boy to drive horses	0	0	8
Four women	0	3	0
	£1	6	8

The machine will thrash per day 20 quarters of wheat, 35 of oats, and 25 of barley, being at the rate of 1s. 4d., 9d., and 1s. 1d. respectively, and half the prices usually paid. At this rate of saving, the machinery would pay itself in four years; and if steam, wind, or water be applied, the advantage would be still greater, as substituting inanimate for animate labour. A moderate power of steam, water, or wind, threshes wheat at 6d. per qr., barley at 4d., and oats at 3d. This reduction in the expence of manufacturing an article, is one of the gases applied by the Scotch farmer in his system of farming, entirely overlooked by Mr. Gayford, and the expence of scutching corn with flails; and of erecting huge timber barns, is applied to the increase of produce, and employs more labourers. Mr. Gayford will urge the custom of the country, and consequently his own inability, and of farmers and proprietors to escape from the pinfold where they are locked up, of which ignorance has fixed the lock and prejudice keeps the key. To be ruled by custom, merely because it is custom; and when both means and power exist to introduce customs more profitable for both parties, is certainly a remarkable instance of prejudice and absurdity. The machine should be erected by the proprietors as part of the farm-buildings, and upheld by the farmer. The above statement shows the original cost, and the saving afterwards; how then are we to reconcile the ideas of farmers who are perpetually crying out about expences, and at the same time reject every plan for reducing that expence, and even condemn as being too expensive itself the very system that has been proved to reduce it, and to apply the surplus labour to the increase of produce. When a proprietor or farmer sees a machine at work with ten hands, he cries out it is expensive farming, and then that these machines diminish labour, an observation undeserving of any reply. The outcry raised of diminution of labour would be best silenced by enquiring which of two farms of equal size, say 400 acres, employed most hands; the farm without a machine or the farm with one; and it will be found the former employs most labour. Then it is said to be expensive farming, and cannot pay much rent; again we answer, these farms pay most rent, and that there is besides threshing in a barn abundance of employment on a farm in the increase of its produce for the labourers employed in that work. Vague assertions are handed from one to another until a general belief obtains: and when such beliefs are once created, arguments and even facts themselves are unable to overturn them. In erecting machinery, a sum of money is expended at once that would require a man for years to earn in a barn; and there is a quantity of labour afterwards required to keep the machine in motion; and when this force which must be on the farm is not exerted on that point, it must be applied to some other point, in order to increase the produce, and

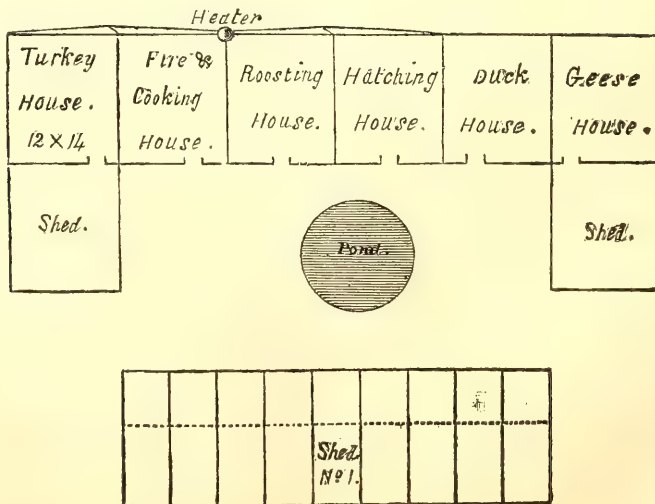
afford employment in return to the machine and its labourers. If a farmer expend 5l. in threshing a quarter of wheat, he only obtains the quantity of one quarter of grain; it does not increase his produce but lessens his profits; and since means are known of producing that result at half the expence he now employs, a quantity of labour is thus applied to a non-productive point and which does not yield him any profit on his outlay. The circumstance of applying labour on points that are not productive shows a mighty want of discrimination, and arises wholly from want of reflection, and from stupid adherence to established customs and opinions, of which it appears only a part of mankind are able to divest themselves.

In the plan and construction of the best modern farm buildings, the form of a square has been adopted as affording most convenience in a certain extent of building, and in saving expence in gables when the houses are joined; and in fences to connect them when standing separate. By this plan all the accommodations required are comprehended under one range of roofing, and no fences are required except round the rick-yard and the dwelling house and garden. Compared with the scattered arrangement often met with, this saving will be considerable. The square is open on the south front, and contains within the wings the store and feeding yards, affording shelter and keeping the manure in a moist and compact state. In the Quarterly Journal of Agriculture for Dec. 1830, are found a list of designs drawn up under the direction of a committee of the Highland Society, in consequence of premiums being offered for plans of this class of buildings. They were prepared, we are told, by an architect of great experience, and met with the approbation of the society. But when a narrow inspection is made, various contrivances and alteration of position might be made with regard to convenience without disjoining the original design.

In a plan for a farm of 1000 acres the dung from the stables is put into a pit, there it will get firefanged, and it might very easily be spread evenly over the surface of a feeding yard. The stable and pigery are distant from any yard, and consequently the dung must be wheeled to a distance. There is only one small poultry house, of which mention will be made afterwards. In the plan for farms of 500 acres, the piggeries are awkwardly placed, forming projections on the square, the stable and cart-shed at opposite sides, and the former at the back extremity of the square, the latter opens inside the farmery, thus affording an opportunity to cattle to run in and hurt themselves. In the following plan the same objections occur. In British Husbandry, vol. 1, page 501, we are presented with a plan drawn under the direction of Sir J. Sinclair, and the writer adds, "with consummate skill and to merit attention." Upon examination, we find only two yards, and the sheds stand with the back to the south, and have consequently a northern exposure. The horses enter by a straw-yard gate and walk to the stable through the whole length of the feeding yard, a plan highly objectionable, and never could be devised by any person conversant with the business. The horses might easily enter by an end door. The stable and shed very properly adjoin, but open in contrary directions; and the horses consequently walk round the side of the square to the cart shed. In all such buildings the stable and shed should adjoin and communicate by an end

door. We find the barn at the extremity of the buildings, and the grain must be carried to the granary through the rick yard. There is no interior door in the cow and feeding-house, probably an omission in the sketch. Consummate skill, therefore, is not found in this plan. In the following plans (pages 101 to 107,) we find the same objections, horses walking round the half of the farmery to find the carts, the barn and granary at opposite sides, with the additional objection, and one of some weight, of a granary over a cow shed, and fold yards with a northern exposure. At page 107, we find a plan on the Duke of Sutherland's farm of 500 acres at Dunrobin with a house for 60 cows, a feeding-house for 24 cattle, and only one open yard. This want of subdivision is now remedied in recent erections; and though the breed of cattle in that country does not require to be so much at ease as larger and heavier breeds, yet experience has shown that any cattle thrive best in small enclosures. In the plan of Lord Sheffield's farm-yard in Sussex, we see large yards with dung pits in the centre—an anomaly certainly to place dung pits in a yard—when it could be easily spread over the yard used by young cattle, and thus dung of different quality gets mixed and improved; pits being only required to keep dung out of sight as an eyesore. The piggery is much detached. In the plan of Lord Chesterfield's farmery at Bradby, at page 109, we again find only one open yard without any subdivision, or any feeding houses. The poultry-yard is extensive, and said to be the most complete in the kingdom. It is certainly deficient in having only one roosting house for all kinds of poultry, and in the houses not being heated. It is now adopted as a principle in the position of farm offices, that if the situation can possibly be obtained, the south front must be open with low walls, in order that the feeding yards may be as warm as possible. The space contained within the three sides of the square is subdivided into yards, with sheds of 12 to 15 feet in width, with cribs for the cattle eating turnips under cover. If a space of 150 feet by 74 feet be included, it may be divid-

ed into six yards, of 54 feet by 23 feet, with sheds of 23 feet by 15. But it may also be divided by the sheds longitudinally, and by a cross wall halving the 74 feet, and thus make 8 yards of 35 feet by 18, and two roads of 8 feet in width running between the sheds in the middle for a cart to pass down and deposit the turnips in cribs through holes in the wall and shut with boards. The objections to this plan will be, more cross walling, and less exposure to the sun: but post and rail fencing may be substituted for the cross wall; and if these objections be not insurmountable, more accommodation will be obtained by this plan, and a more square and compact form of the yards. For a space of 150 feet divided into 8 yards, would be 54 by 17, so many long slips. The yards at Holkham are specimens of the square and compact form here recommended. In all the plans of farm buildings in any publication I have seen, there seems a difficulty in finding a convenient corner for the piggery, and in some plans they are very awkwardly placed. In a plan I devised, and which Mr. Loudon did me the honour of inserting in his Encyclopædia of Architecture, page 453, the piggery is placed in the middle of the yards, with a road between two rows of sties, and at the farther end a yard for store pigs. The sties are 6 or 8 in number, as may be required, with a back door by which the dung is at once discharged into the yard and spread over the surface. Labour is thus saved by juxtaposition in wheeling the dung from a distance. Where swine are extensively kept, one of the yards may be allotted to them—the store pigs in a yard with a sheltered shed, and the feeding sties ranged round; or a separate square yard may be used if locality points it out. It is very rare to see good accommodation for poultry; for with the exception of Bradby, one poultry-house is generally reckoned sufficient. But certainly this species of stock is equally deserving of attention as any other, both for sale near towns and for use in the farmer's family. It might be better to disjoin the poultry from the farmery, and have a separate establishment nearer the dwelling-house, and in something like the following form:—



The roosting, hatching, and turkey houses are heated from the fire house where the food is cooked, consisting of the flour of light wheat and barley mixed with steamed potatoes and eaten by the poultry from troughs placed in the open sheds under cover. The shed No. 1, may be divided into compartments at pleasure, with a small shed and yard in which hatching may go on in summer and where the young broods may be kept separate until grown strong and able to go to the roosting house. Great loss is often sustained from want of separation when in a feeble state. The hatching may go on during winter in the heated houses. A dry and airy situation is indispensable, and the shed and cribs being only used in summer may be erected with timber. A house for that purpose may be planned in the square behind—but it would extend the wings unnecessarily, and would not admit so much sun, an indispensable requisite for young poultry.

In Loudon's *Encyclopædia of Architecture* published a few years ago, we find plans of a number of farmeries erected in different parts of the kingdom, and on examination, the same objections I have before stated are found to exist. In design 9, page 458, the carts are drawn to the shed in the back part of the square, through the whole interior length of the farmery; the stable and piggery adjoin in the side of the square, and being of different heights, the one 14 feet and the other 6 feet, must make a very odd appearance. Several of the plans are built all round the square—very objectionable in excluding the sun and in giving the yards a northern exposure. Any opening in the sides of a square is objectionable in causing currents of wind; for the fewer doors and openings, the warmer any building must be. In design 16, drawn by an eminent architect, straw cannot be carried from the straw-house to any yard without the carts passing through other yards, and eight horses pass through a feeding yard four times a day, to and from the stable. This passage never would beallowed by any practical man. In design 34, also by an architect, we find the square built all round, yards behind yards starving each other, only four yards on a farm of 500 acres, and the barn and granary on opposite sides; if much grain be granaried, there must be labour misapplied. In design 35, also by an architect, and said to be the most complete in the list of farmeries, we find the stable and cart shed on opposite sides, and an entry opening on one side of the square, which, if exposed to a stormy quarter, will cause (in either case) a great current of wind. A circular feeding house is shewn, and an inclined plane on which are wheeled turnips to the cribs and the dung to the yards, and ball cocks in the troughs opening and shutting with fall and rise of the water. By feeding the cattle in yards, the labour of wheeling the dung is saved, and the difference in the expense of erections. The idea of a circular building seems not altogether new; Mr. A. Young proposed a circular piggery, with the cooking house in the centre, and I recollect seeing an establishment of stables and coach-houses at Prestonfield, near Edinburgh, built in form of an octagon. It was found not so convenient as the rectangled parallelogram. In many cases it is recommended to intercept and carry to tanks the rain water from the roofs of the buildings as it is hurtful to the manure heaps. There must be some difference arising from the quantity of rain falling in different countries, for I have always found a want of moisture, and have often carted snow into the yards and sea water from a distance of two miles, at the rate of three tuns a day to moisten the manure. Air and moisture are the two principal agents of decomposition; and I

have always found the rain falling on the superficies of a farmery much too little to moisten the manure sufficiently. Any person who has paid the least attention to the plans of farm buildings will see the absurdity of horses and carts entering the interior of a farmery, the former should enter by an end door, and the cart shed open outwards. And the objections I have now made, such as placing the barn and granary and rick-yard on opposite sides, &c., trivial as they may appear to some persons, are great objections in practice, and confirm the observation I have often made, that no person can recommend with proficiency in any art, unless he has studied and practised that art himself; and on the subject of farm buildings, I will only add, that the first and most essential requisite, is a thorough and intimate knowledge of the uses to which the buildings are to be individually applied, and then how to connect them so as to afford the greatest possible convenience with the least possible labour.

On the subject of leases, as many others, two diametrically opposite opinions are held: each party as usual holding up their own view of the matter as the best, and confirmed by experience, very probably in cases where a difference of circumstances operated in a degree favourable to their particular view of the subject. The advocates of no leases always advance the circumstance of the son succeeding the father for generations in farms on the property of some few of our landowners of the highest rank whose pledged word it would be a gross affront to doubt; and that the cultivation in such cases differs nothing from that of farms held under a lease. They make a long story too about the interchange of good offices, friendly intercourse, and other social terms, promoted by a yearly tenancy. This is all very true, but they wholly forgot to tell the opposite side of the matter, where in a ratio of ten to one, we have known some trivial offence, such as killing a hare or a rabbit, or some lying report carried to the proprietor's ears by a gamekeeper or his deputy, to have ousted many an excellent farmer, and robbed him of his capital if he had made any outlay in improvements. The advocates of leases maintain that more rent is gained by granting leases; that they are withheld for party purposes, that the owner may have it in his power to control his tenantry in such matters. An impartial examination of the arguments pro and con, will, I think lead to the conclusion, that it is contrary to human nature to expect that any man will expend his capital without some security of return. No person lends his money on interest without security, and no one will convert his cash into perishable stock, and use it on another person's property without some prospect of himself or his posterity securing the return. It is generally acknowledged the granting of leases has been a great means of advancing the improvement of agriculture; though it may be expedient to withhold them in particular circumstances, in badly cultivated districts and in mismanaged Ireland, where both capital and skill are wanting, and are to be supplied. But where skill and capital exist there seems no reason for withholding a lease, for if a proprietor's pledged word be as good as a lease, it can only save the trouble of writing the conditions, and this seems so trivial as in most cases to generate the suspicion that it is withheld for other reasons. Hume tells us that the granting the cultivator of the soil some interest in his labours, was the first great breach in the system of feudal tyranny which so long enslaved the inhabitants of this kingdom, and of which we yet see the remains in commons, church, and college lands. The terms of endurance of a lease has been much dis-

puted, but now from twelve to twenty years are reckoned a just medium. The nature of the soil and also its condition must have effect in regulating the endurance, but in general a long lease is the surest stimulus to spirited farming, and a short lease induces the farmer to be parsimonious in his outlay, and to scourge his farm to secure for himself the return in a shorter time, and before his improvements had time to be developed. Very considerable difficulty has been experienced in the drawing of leases. On many estates, especially in the midland counties, farms are held from year to year at six months warning; writing is seldom reckoned necessary; and if the farmer does not commit high treason by ploughing "old turf" he may crop the arable land at pleasure; and this is often done until seed and labour are barely obtained, and then the proprietor farms it for a few years to put it into condition to let, expends some money, which the next tenant, by a similar process, generally pockets. We often hear of money being lost by speculation, here is money lost by ignorance. A quantity of land being let for a certain yearly rent, a simple view of the matter would say, that upon the rent being duly paid, the farmer may use what means he may think most fit to produce the fulfillment of his contract. But experience has shown that by improper management a farm may be severely damaged, and the value of the property deteriorated: and hence arose the necessity of some stipulations and restrictions to prevent the improper use of property let on lease to another person. The total want of any stipulation in cultivation is equally bad, with the cumbrous and objectionable clauses still much in use, which often fetter and encumber the farmer, render the whole deed perplexed and contradictory, and the fruitful source of litigation. One form of a lease is copied into another and for different soils, the custom of the country is often uppermost, as an easy mode of settling a point, and a great error lies in vain attempts to provide against every possible contingency which it is impossible to do, both from the nature of the transaction and from the unforeseen events to which it may give rise. Instead of the terms of the contract being few and simple, easily understood and complied with, we find a long writing of many pages, half filled with the jargon of lawyers, about messuages and tenements, farms and appurtenances, more fitted for the days of feudalism than a simple contract of lease. Any honest man may receive rents, and any clerk can keep a cash book, but an intimate acquaintance with the practice and details of agriculture is absolutely necessary to enable any person to prescribe the conditions of cultivation, and it is in vain for any one ignorant of such things to fancy he can draw a lease with proper and wholesome restrictions. But it is hard to say when the owners and cultivators of the soil may be roused from their apathy, the education and means of observation enjoyed by the farmer furnish a weaker excuse for them than for an ignorant tenantry, and though they cannot, in every case, compel good husbandry, they may at least prevent much that is bad. A lease should rather prescribe what the farmer is not to do than what he is to perform, and to adopt the best rotation known and suited for the soil, with room for enterprise and experiment, and with such deviations as may be necessary from unforeseen circumstances, in conjunction with the agent on the estate (*British Husbandry* vol i. page 67), where one is found capable of advice and consultation on such matters. The rent to be paid being fixed upon, the date of entry,

the term of endurance, the times of payment, the reservation of minerals, and preservation of game, &c., may soon be expressed. The houses are put into tenantable repair and are to be kept so, the gates and fences in the same manner, and all ditches in running order. I had almost forgot the sum and substance of the whole matter, in not covenanting for the preservation of old turf, (*British Husbandry* vol. i. page 67), as for an equal quantity to be laid down in lieu of it, under the superintendence of the agent on the estate. Having formerly discussed this point, I make no further mention here. The great difficulty lies in fixing the mode of cultivation, so as to preserve the condition of the farm during the last years of the lease, when any danger of overcropping may be apprehended. It appears absurd at first view, to prescribe a rotation to a person who depends on the produce of that rotation, instead of leaving it to his own judgment. This objection is obviated by adopting the best rotations known, and thought best suited to the soil; always allowing for unforeseen events that cannot be provided against. The adoption of, and adherence to a rotation of crops, effectually guards against overcropping; and in addition to this benefit resulting from it, it must be held along with sufficient capital, to be the basis of all good and profitable farming. For the lighter soils of the better class, the Norfolk or four years' course, is reckoned best; for inferior light soils, the five years' course; and for very light loams, and sands, the six years' course, or one-half in tillage, and the other in grass; and for clays and clayey loams, the six years' course, with beans in the fifth year, dunged and drilled, without which the course is a severe one. From these and similar rotations, a system of cropping may be adopted, allowing the farmer to follow a less severe course, but strictly prohibiting a succession of grain crops, and above all, and in my opinion, far beyond the preservation of old turf; the neglect of the regular intervention of green crops, manured and well fallowed. A farm managed in this manner will pass from one farmer to another, without prejudice to any party; the rotation goes on as if no intention of leaving existed. Different terms of entry prevail in different districts, but it is now generally acknowledged that the May entry is preferable for both parties; the incoming tenant having to pay for grass seeds, the manure on the farm being transferred to him without any charge, as an article belonging to the farm. The Michaelmas entry in the Southern counties is a most expensive process, and in many instances attended with great inconvenience; with valuations, for dressings and half dressings, tillages, hedge-rows, pollards and leys, amounting in many cases, to *3l.* an acre on land averaging *15s.* of rent. This custom deprives the farmer of capital, and he often pays for articles not of half value to him. But that term of entry being now followed any alteration would be attended with considerable expense to the proprietor, but it might be done piecemeal, and another entry be gradually introduced. But such an alteration cannot be expected, agriculturists being so strictly conservative as to utterly reject any deviations from established practice, in the belief that no other practice will answer the purpose, and consequently that the art has reached its acme. But as all knowledge is progressive, we may yet expect some progression in agriculture; and being the most necessary of all arts, and essential for the subsistence of the human race, it must always occupy a very considerable portion of the attention of mankind.

J. D.

ON THE MERITS OF THE NEW VARIETIES OF WHEAT.

Whitmore House, Ripley, Surrey, Jan. 23.

SIR,—Having seen, in your paper of the 15th inst., a letter from Mr. John Rivers, on “the new varieties of wheat,” I beg to trouble you with a few observations thereon. In the first place, I consider his remarks on Egyptian wheat quite useless, (except as matter of curiosity,) for who, that grows wheat to make *fine* flour and command a *good* price, would for a moment think of planting Egyptian wheat or rivets? With regard to his observations about the *humbag*, alias puff, &c., made use of and the cupidity of *certain* wheat growers, I doubt not there may be both the one and the other, but I hardly think Mr. R. himself can be quite free from the imputation, when, in order to recommend a new variety of wheat, of which, he tells us, he has, this year, thirty acres, he would fain persuade us that wheat which grows *short* straw and is only adapted to rich soils, is *more* to be desired than wheat which will produce a long strong straw, a large ear and fine white grain even upon the *poorer* soils, such as clay, sand, and chalk; of which kind of land there is so great a proportion in all the southern parts of the kingdom!! Mr. R. proceeds to condemn (I presume without trial for he makes use of the word apparently) the Whittington new white wheat, (which possesses all the last named valuable properties) as being long, coarse, &c. Now, Sir, I cannot allow so erroneous a statement to pass uncontradicted, as the original introducer of the Whittington white wheat, I deny that it is either too long or coarse, and, in support of my assertion, I hereby offer forthwith to produce specimens of my wheat the growth of 1837 in the straw, in the ear, and a sample of the thrashed and winnowed *unpicked* grain, against any similar specimens of the wheat of Mr. Rivers, as mentioned in his letter, let the comparison be in the straw, the length of ear, the beauty of the thrashed sample, and the thinness of the skin, and fine meal property of the grain, and all these things having been well considered, let the judges then decide which kind of wheat is likely to be most useful, generally, to the agricultural community throughout the kingdom. I believe, I am not incorrect in saying that, of the arable land in England, the rich soils bear but a small proportion, in number of acres, to the poorer ones, consequently the hardy kind of wheat, which, on poor land under moderate cultivation, will produce a fair length of strong straw with a good ear and grain of good quality therein, must be more desirable, for general cultivation, than the delicate kinds, such as the Russell white and others, which require *rich* soils to force a crop, and on *poor* ones are of *no use* to the cultivator! I am old fashioned enough to wish for a heavy crop of straw, and generally find corn when I get such a one, and the more straw the more manure for the ensuing year! Therefore let those grow *short* straw'd wheat who like it, I shall not envy them their choice! I cannot agree with Mr. Rivers, as to the *cause* of *smut balls* in wheat, nor do I, like him, pretend to know the cause of an evil, which I have never yet heard satisfactorily accounted for! Mr. R. says, smut balls “are unquestionably induced by our *moist* and *variable* climate.” If his theory be correct, how happens it that, in the same field the corn growing close together, side by side, where the atmosphere *must* be the same, but where the *seed* corn for one half the field has, before planting, undergone a preparation different from the other half, how happens it, I repeat, that

one half of said field shall be *very smutty*, while the other half is perfectly free from that annoyance? This is a case which I have very many times witnessed, and my decided opinion is that the state of the atmosphere is *not* the cause of smut balls! I have been a farmer for thirty-eight years, and am not aware that I have ever lost a shilling by *smut balls*, surely if the mischief depended on the atmosphere, I should have experienced it as well as others!

I remain, Sir, your obdt. servant,
P. WHITTINGTON.

DECOMPOSITION OR PUTREFACTION OF VEGETABLES.

All vegetables, when the principle of life has departed from them, begin spontaneously to be decomposed (to putrefy). The elements which enter into the composition of plants, when left entirely to the disposal of their chemical affinities, have a tendency to separate from each other, and form new compounds very different from those which compose the living plant. This is termed the “spontaneous decomposition” of vegetables. The substances formed by the new arrangement of the elements of the vegetable are aerial and colourless;—hence the entire disappearance of the vegetable, as if it had been totally annihilated when life ceased to preserve its particles together in the vegetable form.

The compounds formed, when the vegetable dies and putrefaction goes on, are, carbonic acid, water carbonic oxide, and carburetted hydrogen. The two former are the chief results of the decomposition; the two latter formed more sparingly, and principally when there is not a free supply of oxygen to the substance undergoing decomposition. The carbon and hydrogen of the plant have a constant tendency to unite with oxygen, and form carbonic acid and water. Now there is never present in the vegetable a sufficient supply of oxygen to convert all the carbon into carbonic acid, and all the hydrogen into water; hence, if there be not a sufficient supply of oxygen to produce these compounds presented from external sources, as from the air, the two other matters are formed, one of which (carbonic oxide) requires a less quantity of carbon than the carbonic acid, while the other (carburetted hydrogen) requires no oxygen, consisting of carbon and hydrogen.

In vegetables which decay under water, carburetted hydrogen is abundantly formed; hence arises the gas which is found so plentifully in summer in stagnant waters containing quantities of putrefying vegetables.

The spontaneous decomposition of vegetables goes on most rapidly when they are exposed to the air, kept moist, and preserved at a degree of warmth higher than the usual temperature of the atmosphere. Putrefaction is retarded or almost prevented if the vegetable dried, so that its own moisture is expelled, carefully excluded from air and moisture, and kept cold. The influence of heat in promoting the decay of vegetables depends upon the repulsive power it possesses, by which it disposes the various elements to assume the gaseous form. Animals and vegetables are frequently found in snow or ice, in a high state of preservation.

Such are the changes which go on in the dead plant. That mysterious agent, Life, is able by its peculiar power, to controul and overcome the chemical attractions which tend to produce these changes, and retains these elements in that state of combina-

tion best adapted for the performance of their proper functions: at the moment however, in which life ceases to superintend the exercise of these functions, they cease and the chemical attractions, no longer restrained by the vital principle, obtain full sway. The carbon, oxygen, and hydrogen, formerly existing in the state of wood, bark, leaves, fruit, or seeds, obey the laws of chemistry, return to the state of carbonic acid, water or inflammable gas mix with the earth and atmosphere, afford nutriment to new plants, again form leaves, flowers, and all the beautiful and diversified organs of the vegetable creation—again wither and decay, and return to the soil to supply new generations, and continue the same series of unceasing revolutions.—*Chemistry of Nature.*

TEMPLEMOYLE AGRICULTURAL SCHOOL.

(TO THE EDITORS OF THE IRISH FARMER'S AND GARDENER'S MAGAZINE.

GENTLEMEN.—You will render a service to Ireland, and advance the interests of that branch of her industry (agriculture) whence she derives her principal resources, by giving a place in your widely circulated pages to the following account of an establishment now in operation for ten years, the extension of which, and the formation of similar schools elsewhere, are the sole rewards aimed at by the noblemen and gentlemen who were the founders of it, of whom many are still zealous, as the committee of management, in promoting its success.

I have the honour to remain, Gentlemen,

Your obedient humble servant,

ONE OF THE COMMITTEE.

The Agricultural Seminary of Templemoyle originated at a very numerous meeting of the North-west of Ireland Farming Society at Londonderry, and it was at first intended that it should consist of two establishments, taking Mons. Fellenberg's Institution at Hoffwyll in Switzerland in some degree as the model: the first to be a school affording instruction in every science and accomplishment aimed at by the children of the higher orders; the second for the education of the sons of respectable farmers and tradesmen, in the hope of disseminating the advantages of an improved system of farming with greater certainty, by combining the practice and theory of it in the instruction of those who were afterwards to make agriculture their pursuit. It was hoped that the extended scale of the institution would have allowed of a greater variety of masters and lecturers, and that the profit derived from the superior school would have contributed towards the maintenance of the secondary one; but a short experience convinced the subscribers that such a scheme was impracticable without much larger and more certain funds than they could rely on; they then gave their undivided attention to the agricultural seminary, which through their increasing exertion has attained such eminence as may justly entitle them to look forward with confidence to its increasing usefulness, and to its becoming a model for establishments of a similar nature in other parts of Ireland.

The school and farm of Templemoyle are situated about six miles from Londonderry; about a mile distant from the mail-coach road leading from Londonderry to Newtownmavady. The house, placed on an eminence, commands an extensive and beauti-

ful view over a rich and highly cultivated country, terminated by Lough Foyle. The base of the hill is occupied by a kitchen and ornamental garden, cultivated by the youths of the establishment, under an experienced gardener. The ground between the garden and house is laid out in beds in which all the different grasses, clovers, &c., are cultivated with the greatest care. The house is in the form of an H, with range of farming offices behind, containing spacious, lofty, and well ventilated school-rooms; refectory, dormitories; apartments for the masters, matron, servants, &c.

Each pupil occupies a separate bed; the house can accommodate seventy-six, and the number of pupils amount to sixty. They receive an excellent education in reading, writing, and arithmetic; book-keeping, mathematics, land-surveying, and geography. This department is managed by an excellent head master and assistant master, both resident in the house. The pupils are so classed that one-half are receiving their education in the house, while the remainder are engaged in the cultivation of a farm of 130 Cunningham or 165 statute acres, in the management of which they are directed by the head farmer, an experienced and clever man, a native of Scotland, who has a skilful ploughman under him. The pupils who are employed one part of the day on the farm, are replaced by those in the school, so that the education always advances in and out of doors *pari passu*.

The pupils are thus instructed in all the practical parts of farming, and are also lectured several times a week on the theory of agriculture. They are made acquainted with all the properties of different soils the manures most applicable, and the crops best adapted to each; points in which most of our practical farmers display great ignorance. They are also made acquainted with all the numerous varieties of cattle, and their qualities, such as early maturity in some breeds, hardihood in others, and have strongly impressed on them that one of the most essential points in farming, is to select the cattle and the crops best adapted to the situation, soil, &c.

The stables, harness-rooms, cow-houses, winter-feeding houses, piggeries, barn, tool-houses, are arranged in the best manner, and the pupils are required to keep them and their contents in the highest order. A respectable and intelligent matron has the superintendence of the dairy, cooking, and cleaning the house, and the charge of the domestic servants.

The formation of this establishment has caused its founders an expenditure of above four thousand pounds; of which about three thousand were raised at its commencement by shares of 25*l.* each, taken by the noblemen, gentlemen, and members of the North-west Society. The Grocers' Company, on whose estate it is situated, have been most liberal in their assistance, and have earned a just reward in the improvement of their property, by the valuable example the farm of Templemoyle presents to their tenantry; and it is gratifying to state, that the example is not confined to so limited a circle, but is followed to a very great extent by the farmers to a considerable distance.

In sending a pupil to Templemoyle it is necessary to have a nomination from one of the shareholders, or from a subscriber of 2*l.* annually. The annual payment for pupils is 10*l.* a year; and for this trifling sum they are found in board, lodging, and washing, and are educated so as to fit them for land-stewards, directing agents, practical farmers, or surveyors, schoolmasters, or clerks.

From fifteen to seventeen is the age best suited for

entrance at Templemoyle, as three years are quite sufficient to qualify a student possessed of ordinary talents and a knowledge of the rudiments of reading and writing, to occupy any of the above situations. If this very short and imperfect sketch of what must and will become a more generally useful institution, as it is more known and appreciated, should lead the reader to wish any fuller information, he may easily be gratified by visiting the agricultural seminary, or by applying to the zealous secretary to the Committee, Pitt Shipton, Esq., Londonderry, under cover to Sir R. A. Ferguson, Bart., M.P., who will furnish printed reports containing the history of the rise and progress, the names of the shareholders, the rules and regulations of the society, hours of school and labour, dietary, and a variety of minutiae, which, though extremely valuable and necessary to be known, yet from their length might prevent the insertion of this outline of the Templemoyle Seminary in those works which, from their circulation, may both increase the utility of the publication, and the knowledge of an institution of which the advantages have been felt and appreciated in the north of Ireland.

N.B.—Upwards of two hundred young men, natives of sixteen different counties in Ireland have passed through or remain in the school. Of these between forty and fifty have been placed in different situations, such as land-stewards, agents, school-masters, and clerks, or employed on the ordnance survey. Nearly one hundred are now conducting their own or their fathers' farms in a manner very superior to that of olden time; and the accounts of those who have been placed from the seminary are such as to gratify the gentlemen who have its interest at heart, and to convince them that the good seed sown is producing an ample and valuable harvest.

Templemoyle, Oct. 14, 1837.

[It gives us unqualified pleasure to lay before our readers the above gratifying account of an institution so eminently calculated to confer lasting benefits upon the country. We have been long strenuous advocates for the establishment of agricultural schools in all parts of Ireland, feeling assured that they would ultimately be the means of breaking down those absurd prejudices which have been hitherto the most insurmountable obstacles with which agricultural improvement had to contend.]—EDITORS.

THE GLOBE MANGEL WURZEL.

SIR,—I have read with so much pleasure your friend's letter, signed W. Matthews, that I cannot refrain from taking up my pen to say that after having tried last year the globe mangel wurzel, I feel satisfied, that for some descriptions of land, it will turn to a more profitable account than the long rooted.

It is in a season like this that mangel wurzel is so valuable; it does one good to see the beautiful state in which my blood red now comes out of the pit; none frozen, and from the proper fermentation it has undergone, it looks more beautiful than when put into the pit, about my usual time, the 20th October. I cannot now write the particulars how the crop may be safely kept in a severe winter like the present; therefore, Abernethy like, recommend for information on that subject a reference to page 15 in my book on "*Practical Farming and Grazing*." C. HILLYARD.

Thorplands, near Northampton, Feb. 7.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Having in my first letter to you urged, as forcibly as in my power, the English landlords to introduce upon their estates the system of cultivation recommended by Mr. Blacker, in his *Agricultural Essays*, which have met with such commendation from you I have been rather surprised to read in the letter of a Buckinghamshire farmer, published in a London paper of the 22nd inst., that the *alternate* course of husbandry, that is a corn crop and a green crop, each succeeding the other is an impossibility, because that is what Mr. Blacker particularly recommends, and positively interdicts two corn crops in succession. I think it was to the agricultural evidence from Buckinghamshire that I alluded in my former letter, as shewing no food for cattle; and, if I recollect right the rotation described as in practice there, was a crop of wheat, a crop of beans, and a fallow, and then the same over and over, again and again; it is no great wonder that a person accustomed to such farming should think the alternate course recommended by your Hampshire correspondent, and by Mr. Blacker, to be a thing impossible, but I trust you will call upon some of the intelligent farmers in Suffolk, or on the Earl of Leicester's estate in Norfolk, to say whether there is any impossibility in the matter. I have been told at least that in many parts of those counties the farmer is bound by his lease to the four course rotation, and that if he did not interpose a green crop between his corn crops he would be turned out of his farm.

It was for the very purpose of introducing this great improvement so much wanted in Buckinghamshire, and in so many other counties in England and Wales, that I recommended the distribution of Mr. Blacker's pamphlet by the English landlords among their tenants, because it is written in a plain argumentative style which must carry conviction to the mind of any reasonable farmer, be his farm large or small.

In very large farms indeed the *five* course rotation may often be preferred, as I believe it is in Berwickshire, but the *four* course gives more manure and more crop, and the large farmer if he finds it inconvenient to soil the requisite number of cattle in summer may make up the deficiency by stall-feeding in winter.

I intended in this letter to have followed up the remarks made in my last upon the relative importance of the commercial, manufacturing and agricultural classes as stated in "the claims of the landed interests," but it seems to me so important to press upon the English Farmer the immense advantage of a proper rotation of crops that I think it better to give this subject precedence of every other, and I should hope you would call upon your correspondents in every well farmed district to come forward and by their united testimony convince the Buckinghamshire farmer, and all others of his way of thinking, of their error, and more particularly to prove to landlords how blind they are to their own interests and to the interests of their tenants to allow such errors to remain un-eradicated.

I remain, Sir, your obedient Servant,
MERCATOR.

Bucks, Jan. 17.

SIR,—I am in the weekly receipt of your paper, and ead its contents with much interest, more particularly those which relate to agriculture, in which I am pretty largely concerned. But I must confess there is too

much reliance in your views upon expedients, as the resource now to be looked for by the agricultural interest to agree with my own views of the matter. The evil is certainly much deeper seated, and the low prices which the pecuniary state of the country demands, from the produce of bread corn and barley, coupled with the untaxed Irish competition in oats, which is one-third of the staple produce, is unquestionably the true cause of the English farmer's difficulties. It is well known that a surplus, however small, will greatly reduce the prices, and that surplus is now for ever at our barn doors. Without any actual deficiency in the supplies of the country from our own soil, there is a perpetual fund of Irish and foreign corn from which, with every approximation to remunerating prices, the markets are immediately supplied, and in competing with this cheap produce, the English farmer is obliged to lower his dear-bought corn to the standard of those producers, who could afford to undersell him even upon much over terms.

But I wish to refer more particularly to a letter which appeared in your paper of this week, having the signature of a Hampshire agriculturist. That your correspondent is an agriculturist may be true, but he is certainly not a farmer. No farmer would write such a statement, although it may have emanated from one of those rich cultivators who call themselves agriculturists. He says that a landlord should require from his tenant to grow "at least one green crop for every crop of corn, and interpose a fallow crop at least every fourth year." In 100 acres this course would be 25 acres of fallow and 50 acres of green crop. Even if his intention be to include the fallow in the green crop, the statement involves a produce of green and corn crop alternately through the whole farm, acre for acre. I should be very glad if farming could be so carried on but the farmers will tell you that no such proportions are possible, and I will venture to affirm do nowhere prevail in practice. Practical farming nowhere approaches to such proportions, and the proposition is a gross misrepresentation, only calculated to mislead the public as to the farmer's capabilities. He sets the requisite disposable capital of a farmer at 71., and that he should expend 25s. per acre annually in labour. The least capital required to carry on a farm is 10l. per acre, and 25s. of labour per acre in a year, is about 10s. an acre less than it costs every practical cultivator. As your paper is now professedly the organ of the Agricultural Society, and looked up to by the community as a sort of authority in all matters relating to the soil, and as the present feeling of the town communities is too much against the farming interest, whilst it is their interest to find out faults, it seems due to the public that such statements should be carefully guarded against as are calculated to misdirect the public mind, and raise invidious misconceptions upon the true position of the farming interest. I will venture to assert, that not one crop, except the wheat crop, has this year paid for its production, by the person who produced it. I mean, of course, upon an average of any whole crop, either of barley or oats. And though the price of wheat is now remunerating, it is not sufficient by a great deal to sustain the failure in the other crops. With respect to the green crops, these are to be judged of by the price of meat, and I believe those who had prepared their stock for the London markets this season upon turnips and corn, will find that both are clean gone out of their pockets. Your Hampshire correspondent is rather magniloquent in his condemnation of the slovenly or niggardly farmer, and urges all men to employ the poor at this season in draining their land. There is not one farm in a hundred where such an operation is required, and as the improvement where practicable is pretty expensive, and accrues chiefly to the landlord, is not a sort of farming culture, which most farmers would either be able or disposed to undertake. The truth is the land is overburdened. Every charge of sustaining the unprofitable portion of society is laid upon them, as it was when land formed the only property of the country. It seems quite forgotten that the poor, that is every unprofitable class, and every institution for

purposes which are designed to meet that class of existence which lives by the labour of others, or for a common benefit, is the orphan of the state, but the law treats them as the legitimate children of the farmers alone. If the manufacturer in the prosperous times of our commerce, peopled whole cities with a new generation, and on the turn of the commercial scale withdrew his capital, and invested it in a Russian loan or the Three per Cents, leaving his mills a waste for the bat and the owl, the population he raised up are apportioned to the neighbouring parishes, and the farmer has to provide for the famished children of the prudent but, I think, heartless spinner of cotton. The mischief is this, that the legislature proceeds upon the same principles as the legislature did in the days of Queen Elizabeth, and instead of recognising the new property, which is money capital, as part of the property of the country, it shuts its eyes when the golden treasures are brought before it, and will see nothing but that soil which is nothing except by the labour of its possessor.—I am, Sir, your obedient well-wisher,

A BUCKINGHAMSHIRE FARMER.

SIR,—I have been surprised, and, I will add, gratified, by the observations of a Buckinghamshire farmer, I say gratified, because it gives me room to hope that I may offer him and his neighbours some useful suggestions. He says that my statement of grain and corn crops alternately throughout the farm is "impossible," and he will "venture to affirm nowhere exists in practice." "Practical farming," he adds, "no where approaches to such proportions."

Well may the people of Buckinghamshire talk of agricultural distress! We should be distressed too if we farmed in their style, supposing the sentences just quoted fairly to describe, as I do not doubt may be the fact, the Buckinghamshire system of cropping. If I had the pleasure of your correspondent's acquaintance, I could introduce him to farmers who have doubled their capital, and more, within the last fourteen years, by an adherence to that system which he pronounces impossible. In fact it is the universal system of all the best farmers with whom I am acquainted, and certainly of all the successful farmers. As your correspondent evidently knows nothing of the system practically, I strongly recommend him to make the experiment. I see no reason why it should not answer with him as well as with others. It is a system which I invariably follow myself, from a conviction that it is at once the most profitable to the cultivator, and the most advantageous to the community.

I am scarcely less surprised at his assertion, that "the least capital required to carry on a farm is 10l. per acre, and that 25s. of labour per acre in a year is 10s. less than it costs every practical cultivator." I can only say that the Buckinghamshire farmers must be very bad managers. I know a few rare instances of very spirited farmers who expend upwards of 30s. per acre in labour, but I am certain such cases are not one in fifty. This however is of no great moment. I only mentioned 20s. per acre as the *minimum* that ought to be employed in labour, and 7l. per acre as the *minimum* of the capital. If more is expended so much the better.

To assist in convincing your correspondent that the alternate system of cropping is not only possible, but much more profitable than the old system, I extract the following particulars from Von Thaer's *Principles Raisonnées d'Agriculture*, the best work by far that I have yet seen on this subject. I have converted the author's numbers into pounds sterling as more convenient for the English reader.

On the old system of the crops and a fallow:—Produce in cattle, 210l.; produce in corn, 894l.; expenses of cultivation, 587l.; rent and profit, 567l. On the alternate system:—Produce in cattle, 1,249l.; produce in corn, 2,030l.; expenses of cultivation, 1,051l.; rent and profit, 2,228l.

On the alternate system it will be absurd; the expense of cultivation is double; this system therefore

gives employment to thrice the number of labourers, but the net produce is quadrupled.

If the Buckinghamshire farmer still doubts, I refer him to the Norfolk farming, requesting him to bear in mind that the alternate, or "impossible" system of cropping, universally prevails in that county.

Jan. 23.

A HAMPSHIRE AGRICULTURIST.

FROST.

Fanciful frost on the window pane
With his silvery pencil has come again;
Mocking the trees that are barren and bare,
With the foliage bright he has pictured there,
And makes us amend for the view he shut out
By tastefully sketching the windows about,
Like the scenes that we read of in fairy land,
That are raised by the touch of a magic wand.
There's the glittering hall with its pillars bright,
And its crystal roof of dazzling white;
And the feathery trees in that sparkling vale,
Might have charms for young Edwin of fairy tale.
Then all around, in fantastic shapes,
Are towering mountains and jutting capes;
With kaleidoscope figures of angle and square,
Or listening crosses suspended in air.
Tho' the pencil and sketch-book are brittle and frail,
Whilst the artist continues his work will not fail;
But trees, temples, and palaces, all of them fly,
From a ray of the sun, or the burst of a sigh;
In silence they rose on the moistened pane,
And as silently sink into water again.

CHARLOTTE.

THE HEDGEHOG.

Thou poor little English porcupine,
What a harassed and weary life is thine!
And thou art a creature meek and mild,
Thou would'st not harm a sleeping child.

Thou scarcely canst stir from thy tree root,
But thy foes are up in hot pursuit;
Thou might'st be an asp, or horned snake,
Thou poor little martyr of the brake.

Thou scarce canst put out that nose of thine,
Thou canst not show a single spine,
But the urchin rabble are in a rout
With terrier curs to hunt thee out.

The poor hedgehog! one would think he knew
His foes so many, his friends so few;
For when he comes out he's in a fright,
And hurries again to be out of sight.

How unkind the world must seem to him,
Living under the thicket dusk and dim,
And getting his living among the roots,
Or the insect small, and dry hedge fruits.

How hard it must be, to be kicked about,
If by chance his prickly back peep out;
To be all his days misunderstood,
When he could not harm us, if he would!

He's an innocent thing, living under the blame
That he merits not, of an evil name;
He is weak and small, and all he heeds
Lies under the hedge among the weeds.

He robs not man of rest or food,
And all that he asks is quietude;
To be left by him, as a worthless stone,
Under the dry hedge bank alone.

Oh poor little English porcupine,
What a troubled and weary life is thine!
I would that my pity thy foes could quell,
For thou art ill-used, and meanest well.

ON DIBBLING WHEAT.

In reference to this subject, and more particularly as to the requisite quantity of seed per acre, we beg to refer "A Sussex Farmer" whose letter will be found below, to a letter in our last, dated from Diss in Norfolk, signed "A Friend to Good Farming," and extracted from the *Suffolk Chronicle*, wherein the writer states that he obtained last year, within a quart of sixteen bushels of wheat, 61 lbs. to the bushel, from three pounds and a half of seed. It was dibbled in rows at 12 inches distance, and six inches apart in the row, one grain in each hole. The space of ground planted was 64 perches. Calculating in the same proportion it would have taken about one pound and a quarter more than a gallon to plant an acre. We wish "A Sussex Farmer" would try the experiment fairly and without prejudice, and communicate the result to his brother farmers. The great object of discussing these subjects in the columns of a newspaper is to induce experiment, and to elicit observation from practical farmers upon the experiments which they may have made. As regards the remarks upon "book-farming," we are free to confess that we anticipate great benefit to agriculture from *theory* when it shall have been *well established* upon *practice*, and we may be permitted further to add, that although willing at all times to consult books and obtain information from whatever quarter, our information does not wholly depend upon such sources, having been *practically* engaged in farming upon an extensive scale for many years.

DIBBLING WHEAT.

TO THE EDITOR OF THE SUSSEX AGRICULTURAL EXPRESS.

SIR,—In reply to some observations extracted from the *Mark Lane Express*, in your journal of the 6th instant, I beg leave to repeat that my remarks which were calculated to throw some doubts as to the dibbling of wheat being applicable to the stiff soils of Sussex, or indeed to any soil with so small a quantity of seed as one gallon per acre, were not offered to prevent the experiment being tried, but to show to those not experienced in agriculture that farmers may have good reasons for not adopting a plan so warmly advocated by one of your correspondents in a former paper. Allow me, Sir, to express my regret that the prejudice which unfortunately exists against "Book-farming" should be fostered or increased by the judicious recommendation from the press, of theories which have not undergone the ordeal of experiment or received the sanction of some practical agriculturist, but I beg most distinctly to be understood, *not* to wish for the exclusion from the study of agriculture, all but practical men; I am quite sensible that the farmer is much indebted to the suggestions of the purely scientific for many improvements, and I believe that the chemist, the geologist, the botanist, and the natural philosopher, will yet be of infinite aid to us by the study of their respective sciences as connected with agriculture, but it is the practical farmer who must test the theories of the scientific enquirer.

The *Mark Lane Express* appears to agree with me in respect to dibbling on stiff wet soils, and the injurious tendency of too much tillering; but when it states that by taking the number of grains in a gallon, they would be found sufficient for planting an acre of land at such a distance in the rows as would not require a dependence upon tillering, I must respectfully differ. It is not necessary to count the number of grains in a gallon to ascertain how much it would probably be necessary for the plants to tiller, to produce a full crop; suppose each plant to produce 150 grains (which is the greatest number it can be expected to yield without its tillering

enough to endanger the quality of the crop), one gallon, supposing every grain to produce a plant, and every plant to escape the worm, the slug, the frost, and the numerous other accidents to which the tender plant is liable, would produce 158 gallons, or 18 bushels 6 gallons,—deduct one-third for faulty seed, and all accidents during their vegetation and the crop would be about 12 bushels per acre, and instead of 40 which good wheat land is certainly capable of bearing, and frequently does bear under the broad-cast system.

No farmer would like to have a less number of plants than his land is capable of bringing to perfection, what that number is, appears to be a question. There are about 78,000 grains in a gallon of wheat, and 4,840 square yards in an acre, therefore a gallon of wheat dibbled on an acre of land would produce (supposing every grain to grow) 16 plants persquare yard. I have examined two fields with wheat sown broad-cast, on which the plants appear to me to be thick enough, and not too thick to produce 40 bushels per acre, and I found the plants averaged at nearly 100 persquare yard. One of these fields was sown in November at the rate of two and a half bushels per acre, and the other in December at three and a half bushels, by which it is evident that much of the wheat that is sown broad-cast does not vegetate. But I cannot suppose that experienced farmers in a wheat district can be so much mistaken as to aim at obtaining 100 plants persquare yard, when less than 16 would be sufficient.

I am, Sir, your obliged servant,
January 15th, 1838. A SUSSEX FARMER.

ROTATION OF CROPS.

SIR,—A regular and proper course of cropping soils of every description will be found to answer the purpose of the occupier much better than an irregular system, and great attention should be paid not to grow the same varieties of grain, &c. on the same land too quick, but keep them as far distant as possible. The following are the systems I should recommend on the various soils:—

On all light dry land on which turnips can be fed, take—1st, turnips on half the portion of land prepared for this crop, sow white and red, and on the other half, Swedes, manured for with bones, rape cake, or dung; the latter should be applied in a coarse state, ploughed in, and well incorporated with the soil the last two or three times ploughing, &c. in making the fallow.—2nd, Crop barley, half Chevalier, and half American.—3rd, Crop seeds, half red clover with a mixture of rye grass, and half Italian rye grass, manure the young seeds, cut the first crop for hay, and feed the second.—4th, crop wheat, sow different varieties of the Chevalier prolific, ten-rowed prolific, and golden drop, go through the same course again, except where bones and rape cake were applied, there put on dung, and on that part on which white and red turnips were grown, there grow Swedes; and where Chevalier barley was grown, there grow the American; and on that part on which red clover and rye grass were grown, there grow Italian rye grass; and change the varieties of wheat the same. The above is a four course, yet the same varieties of grain, &c. are not grown on the same soil but once in eight years. It would be advisable to have a few acres of mangel wurzel on a portion of the fallow land, instead of turnips, to guard against a scarcity of feed in the spring; this root is also very valuable in the lambing season for ewes, as it forces a great quantity of milk.

On good strong loam and clay land, 1st,—Wheat on a well made fallow, manured with about ten two-horse cart loads of coarse dung, or on that part which is tolerably clean by the latter end of May, sow tares, and plough them in as a manure.—2nd, Crop oats or barley.—3rd, Crop seeds, a portion red clover, another portion cow grass, and the other part Italian rye grass; manure the young seeds, cut the first crop for hay, feed

the second (or save a part for seed, if required).—4th, Crop beans or peas drilled 18 or 20 inches between the rows, and in the intervals freely use the horse hoe.—5th, Crop wheat, for this crop give a portion of manure. Mr. Marriott, of Balderton, Notts, who is farming a considerable tract of this description of land, prepares a manure to drill in with the seeds, as follows:—he takes a quantity of moist coarse dung out of the yards, and lays it about ten or twelve inches thick; on this he puts a quantity of lime the same thickness, and on the lime another layer of dung about the same as the first—the moisture of the dung slackens the lime in about twenty-four hours, when it is turned altogether, and remains about twenty-four hours longer, by this time the heat of the lime causes the dung to crumble, or as it may be termed, burns it into ashes; this mixture is then riddled through a sieve, when it is ready for drilling, and may be put in with the seed wheat, the same as drilling bones or rape cake with turnip seed, about twenty bushels per acre;—after three years' trial, Mr. M. has proved this manure to supersede either rape cake or dung, particularly in a wet season, and the expense of this manure and labour does not exceed 15s. per acre.—6th and last, crop oats or barley; on this soil a few acres of mangel and Swede turnips should be grown;—for mangel wurzel I should advise a piece of land near the farm yards being devoted entirely to the growth of this plant, for the following reasons:—1st, after the first year it will require only half the quantity of manure;—2nd, from being near the yards a considerable saving in the expense of carting the manure and crop is saved;—3rd, from growing it successively on the same piece of land it is always in a clean and highly pulverized state;—and, 4th, it is said, corn does not succeed well; after this crop there would be no danger of a failure, as it has been proved by many of the large growers of this plant in Essex, that they get better crops of it when grown successively on the same piece of land; when this plan is adopted, the rows should not be nearer than three feet, and each year set out in opposed directions for cultivation, &c., &c.—Of this plant see my letter in the *Sussex Agricultural Express* of March 4, 1837.

The above soils have by effectual drainage and ploughing in good vegetable crops, such as tares, clover, and buck wheat, been brought into such a state as to be farmed on a four-course, which will be found the most profitable when it has become sufficiently dry to feed the turnips on the land, as it enables the farmer to keep a greater quantity of stock; but the six-field system, as above, is most generally adopted.

On loams and clay of a more tenacious and poorer description—1st, Wheat, after a clean well made fallow, manured with fifteen or sixteen two-horse cart loads of good farm-yard manure or tares ploughed in;—2nd, crop clover fed or cut for hay, if mown twice apply a dressing of manure;—for the 3rd, crop beans, drilled in twenty inches between the rows, and use the horse hoe frequently in the intervals;—4th, and last, crop oats; on these soils a portion of mangel wurzel may be grown on the plan above recommended, and will be found very useful.

The above are the systems adopted by some of the best and most experimental farmers in England.

I am, Sir, your obedient servant,
AN AGRICULTURAL TOURIST.

Doncaster, Jan. 14.

LIQUID MANURES.

SIR,—Whilst men live by the chace, the more game one man kills, the less remains for others;—but when men till the soil, the more each person causes to be produced, the more general are the advantages received, nor are they confined to the tiller and his family, but the farmer's profits afterwards circulate amongst all classes.

The pamphlet written by C. Johnson, Esq., on Liquid

Manure, contains that description of information which, if practised, will lead to this great end; and that the farmers attending the Lewes market may have an opportunity of seeing this pamphlet, I have sent you a copy. They will there read how carefully liquid manure is saved by the farmers on the Continent, which they convey, after diluting it with water, to growing crops of all kinds, even turnips, mangel wurzel, potatoes and plants. Many persons who have put themselves to great expense for bone dust, have permitted the overflowings of their farmyards to run away by the roadside, without considering that the slender roots of plants cannot imbibe manure of any kind unless it has been sufficiently diluted by the rain to be admitted through their minute extremities, and thence by valves, raised to the leaves and seeds above. The pamphlet of Mr. Johnson is interesting, as it indubitably proves how much less straw is used for litter abroad, and is it not an object worthy of consideration, whether straw consumed with succulent food by oxen brought from the marshes, is not more valuable in furnishing manure than when thrown down in open yards, and trampled by stock, which, the more they are exposed to the wet and cold, the more food they require that they may not lose condition? Z.

Eastbourne, Jan. 16.

AGRICULTURAL PREMIUMS OFFERED IN SUSSEX.

At an audit held by F. H. GELL, Esq., of Lewes, 1838, the room was surrounded by 345 roots of wheat grown by the School Master of the village from one grain of wheat, dibbled by him June 28th, 1836; the shoots from which he first divided into nine plants, then into one hundred and ten, which stood till the following spring, when they were once more divided, and produced four thousand two hundred and fifty ears, which increase surprises those who know that the average produce of England is not TEN TIMES THE SEED SOWN. The experiment originated in a note to the introductory chapter of the quarterly Journal of the Highland Agricultural Society, quoted from the Philosophical Transactions for 1768, that in a single season from a single grain of wheat 21,109 ears were produced, which yielded nearly a bushel of clean grain.

The tenants then visited a tank for receiving the drains from their landlord's stables, &c., with a pump and water cask for taking the same on the land,—and received each a copy of the Pamphlet by Cuthbert Johnson, Esq., on the use of liquid manure on the Continent. Also the model of a Swiss farm house was exhibited, by which it appears that the cattle occupy the whole of the ground floor, that the family live on the next floor and sleep on the third, that part of the second and third floors form the barn and thrashing floor, and that the cattle use little or no straw to lie on, their stables being floored with wood laid on a slope of 6 inches,—that cows are frequently milked three times a day, and curried like horses, and are found to be more productive under shelter with green food than if exposed to changes of temperature in the fields, and even when sent to pasture on the mountains that shelters are provided for them at night.

And German and French works on the audit table showed the encouragement given to agriculture by the governments on the Continent.

After dinner the following toasts were given:—

1st.—The plough that does most work at the least cost.

2d.—May TINY fingers in Sussex produce as large crops as in Cambridgeshire, Norfolk and Suffolk.

3d.—No straw in the yards and much stock in the lodges.

4th.—The Queen,—and may her Majesty extend to the South the charter her progenitor granted in 1784 to North Britain.

5th.—Earl Spencer and the Agricultural Society of Yorkshire, whose premiums are open to the whole kingdom.

6th.—The Duke of Richmond and the Highland Society, whose premiums offered for 1838 amount to upwards of seventeen hundred pounds, for which the whole of the British Isles are invited to compete.

When each tenant had a copy of the following:—

It being as much the interest of Farmers as of Manufacturers to adopt those plans which experience has proved to be beneficial elsewhere—

The following premiums are offered at the next audit:—

A Scotch plough to those who have ploughed the greatest number of acres, being not less than 10 with only a pair of horses abreast, and turned the furrow at the angle of 45 degrees as recommended in Mr. David Low's Elements of Practical Agriculture.

A moveable Pump to those who dig one or more tanks for liquid manure to each of their farm-yards, and bring sand, lime, and stones or bricks for casing the same, the cost of lime and mason's work being defrayed by the steward,—that a trial may be given of the efficacy of liquid manure as used on the Continent described in the pamphlet of Cuthbert Johnson, Esq., of which each tenant received a copy.

A silver cup, value five guineas, to the tenant who dibbles the greatest number of acres of wheat, barley, or oats, provided the same is not less than five acres,—that the dibbles are not less distant than 6 inches by 9, to allow for removing the weeds,—

That not more than 2 gallons of wheat is	£.	s.	d.
used per acre, which now costs	0	2	0
And if the work is done as in Hertfordshire			
for wheat and oats, at per acre	0	6	0
		0	8
			0

The saving to the farmer as compared with			
broad casting, 3 bushels will be	0	16	0
and profitable employ spring and autumn			
for labourers and their families	1	4	0

And at the audit for the year 1839 are offered three silver cups of ten, eight, and six pounds value, to the owner of the greatest number of bullocks, not being less than 20 head, that have neither been tied up nor suffered once to leave their shelters from the time they return from their summer pastures till the following year; previous notice to be given to the Bailiff that he may provide poles for dividing the lodge or lodges, and also by visiting the stock from time to time, be able to confirm the certificates of three servants employed in bringing food to, and feeding these cattle, that the above conditions have been strictly complied with.

These principal prizes are delayed till Christmas, 1839, to allow time for sufficient succulent food to be raised and cut up with straw for feeding this stock; but to all who have so stall fed not less than ten bullocks before the next audit, a copy will be given of the Elements of Practical Agriculture, by David Low, Esq., of Edinburgh.

When to realize the gains enjoyed elsewhere, Farmers will find it requisite to keep four men besides boys ALL THE YEAR ROUND per 100*l.* assessment for land and tithes in the parish valuation, supposed to be about two-thirds of the real rental.

Those who have kept that number have given the NAMES of their men and boys, and he who by similar lists signed by his foreman, has kept the greatest PROPORTION of men above four, to the extent of the land occupied by him, will receive a piece of plate or farm implement to be chosen by him, of the value of ten pounds.

[QY.—Would not many men employed in profitable labour by day, more cheaply and effectually secure the peace of rural districts, than men wandering about by night, even if their sobriety and vigilance could be relied on; and would not one pound a year, subscribed by landlords to such a society as the Highland, suggest profitable employment, and these premiums a motive to adept it?]

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—On perusing the pages of your useful publication my attention was drawn to a letter on the breeding of cattle, addressed by Mr. Knight, to the members of the Herefordshire Agricultural Society; having attended their anniversary, and being a member of a similar one, allow me through your valuable journal to offer an opinion, on the formation of such Societies, with a short reply to some observations contained in the above letter, though as an admirer of the "improved short-horn" breed of cattle, I may differ in some points, with the "Hereford" Correspondent. On entering upon the merits of breeding cattle, there appears a diversity of opinion, that requires some reconciliation, which cannot be effected better than by the standard of bringing together the selected specimens of the different herds and flocks of a county, to compete for premiums, thereby to point out those animals best adapted for the district, and most worthy to be encouraged. In establishing or supporting an exhibition in any district, it is important first to encourage the breeding animals, when having attained this object, attention should be turned to the *produce*, which are intended to repay the outlay of former years, and to them offer some reward of merit, but not under so restricted a mode of feeding, early maturity being the foundation; as was fully carried out by the three years and five months old "improved short-horn heifer" winner of the gold medal at the late Smithfield Club Show, which animal was one of the productions arising from the formation and establishing of a Society in the county of Rutland, that has now attained considerable importance; having for its object the breeding and feeding of good animals within its district, and will ere long, be productive of general good, by furnishing the market with superior animals of every description, at an early age. I fully agree with Mr. Knight, as to the ill effects of over-feeding those animals selected for breeding, feeling convinced that when ever practiced, it must tend more or less to the injury of future improvements, but in the formation of a Society ought it not to be the first step to guard against that evil, by offering premiums for their encouragement, under the head of a *restricted* mode of feeding, which would not only establish a proper spirit of emulation amongst the breeders, by knowing that they competed upon equal terms, but would prevent the evils complained of by Mr. K., if the degeneracy of which he speaks rests wholly upon over-feeding; but in the important extract, contained in his letter, it appears that the breeders themselves, have fallen into some error, by carrying their pitch of excellence too far, as will also be verified by the following extract, from the speech of C. Hillyard Esq., at the dinner of the Smithfield Club. "He did not exhibit his animal as a specimen of what an ox ought to be, but as, in a great many parts what it ought not to be, as a specimen of an error into which in his humble judgment many of the breeders of Herefordshire cattle have fallen. That was a want of muscle, consequently when the animal was full fed a deficiency of a due proportion of lean meat to the fat, being fat upon the rumps, which is of very little value, wide hips, narrow chins and thin in the thighs." I doubt whether the above extract will meet the approbation of Mr. K. after his allusion to the challenge of Mr. Price, who in his own estimation, has arrived far beyond the reach of *all* other breeders. When I reflect that Mr. P's oxen are to be placed in the hands of a gentleman who has been

so successful in Sadler's Yard, it appears nearly a settled point; but as there will be *different* judges at the next anniversary of the Smithfield Club, probably there may be a change of opinion, particularly in No. 2. Under such circumstances, he may rest assured, that when ever his extraordinary productions appear in *public*, they will meet their equals in the "improved short horns." As the experiment between the Hereford's and Durham's spoken of by Mr. K. is not of recent date, it is possible that of a similar trial was made, at the present time, it would prove in favour of the latter "though insolvent when sent to market" but may we not equally *libel* the Herefords, who, according to the bitter complaints of Mr. K. on the over feeding of cattle in that county, partake of the luxuries pretty freely. Not having read so much of our foreign relations, and their gormandizing, as Mr. R. I confine myself to "the land we live in," and will ever support its agriculture, in any, or every branch, most conducive to our interest. Fearing that I am intruding too much upon the pages of your spirited publication,—I remain, Sir, your well wisher, &c. R. S.

Rutland, Feb. 9.

THE MEDICAL TREATMENT OF FARM HORSES.

TO THE EDITOR OF THE FIFESHIRE JOURNAL.

MR. EDITOR,—I beg leave, through the medium of your valuable *Journal*, to advert to a practice which deeply interests those who are in possession of horses. In the county of Fife for some time past, and even at present, it has been the practice of farriers to administer drenches to the horse through the nose, instead of putting them into the mouth, which is surely the most natural way. In addition to this, a stimulating ingredient is mixed up with these drenches, and given to them; and even caustic has been administered in a highly pernicious way. It is surely a fact known to all, that the horse breathes through the nose, and not by the mouth, except it be when coughing, and the effort to do so is altogether convulsive. It should also be remembered, that in the horse the communication between the trachea or windpipe is almost direct, and more so when his head is held above the level of his body, in which position these drenches are administered. When given in this way, great irritation is produced in those delicate organs connected with the lungs, and the doses are also destructive to the organs through which they pass to them. In speaking on this subject, I may state that I have known some excellent horses, treated in the manner above specified, quite destroyed;—one horse having received the drench in this way lived only a *minute*—another horse used in a similar manner lived in great agony for about twenty-four hours, and then expired. Now, Mr. Editor, it is certainly a species of great cruelty to treat such a noble animal as the horse in the way I have described; and it aggravates the case exceedingly, when this is done by men who call themselves veterinary surgeons, when, in fact, they are mere *quacks*. I trust that the eminent veterinary surgeons in this country will join with me in putting down an infamous practice, so destructive to life and property, and, withal, so cruel to an animal that adds so much to the comfort and happiness of man.

By inserting this communication as early as possible in your paper, you will, Mr. Editor, I am sure, confer a benefit on many, and oblige, Sir, yours, &c.

ROBERT DODS, *Veterinary Surgeon.*

Kirkaldy, Jan. 24.

ON PRUNING, THINNING, &c., OF TREES IN PLANTATIONS.

BY MR. JOSHUA MAJOR.

I have taken the liberty of sending you a few remarks on the very defective manner in which plantations are generally managed, as far as regards ornament, hiding disagreeable objects, and effecting convenient and secure places of retirement; trusting, through the medium of your widely circulated Cabinet, should you deem them worthy of insertion, that my remarks may have some tendency towards abolishing the evil I have to complain of.

I find wherever I travel, and in whatever country my profession calls me, very great and glaring defects in plantations, arising in nine cases out of ten from the want of judicious and early thinning. Now, could we persuade gentlemen, and persons who have the management of such plantations, to commence thinning a few years after planting, and to continue to do so, at least once in two or three years, as it is necessary, the defects I complain of would be prevented, and the objects I have in view would be effectually attained.

The method I would recommend to be pursued, is as follows:—

1st. Make choice of such trees, as are likely to remain where they are planted, and at each successive thinning, clear off a few of their lower branches, wych, elm, birch, lime, &c., should be trimmed to the lowest stem; and the formal upright kinds, such as the horse-chestnut, sycamore, mountain-ash, &c., to the shortest stem.

2nd. Cut down from time to time, as occasion requires, such other trees as appear to crowd these, by this means the adopted plants will have room to bestir themselves, and they will be found severally to form extensive and massy branches, calculated at once for ornament and use, and one single tree will eventually afford a screen equal to a hundred of these neglected skeletons we are at present confronted by wherever we turn ourselves. I do not mean that plantations should be always equally thinned; let the trees be occasionally at various distances; for instance, two, three, four, five, or more may stand in a group, set from three to five yards from each other; which, although near together, may still become fine ornamental trees, provided sufficient room be left all round to allow their branches to extend with freedom; and indeed, in order to produce a proper effect, and to have groups and masses of different sizes, different distances must be adopted; instead of which, we generally find plantations almost totally neglected for the space of fifteen or twenty years, and sometimes even longer, and that too, although the trees were planted at first at no greater distance than three or four feet from each other. Such mismanagement must necessarily cause the branches to decay and fall off; and consequently leave the trees little better than mere naked poles, but miserably ill calculated to form a screen, and ornament the surrounding landscape.

The other day, on a journey into Derbyshire, I was forcibly struck with the necessity of something being immediately said on a subject so important.

I noticed on each side of the high road plantations that have stood at least thirty years; the trees were from three to four feet distant; in consequence of which they had long been divested of their principal branches, which rendered them

entirely useless as a screen, for which purpose they appeared originally to have been planted. I am not sure whether they did not belong to some nobleman, but, however, it is no uncommon thing for similar defects to present themselves in large domains, even where woodmen are kept, which certainly reflects no credit on the owners.

I frequently find it a difficult matter to persuade gentlemen to allow their plantations to be thinned, and their trees to be cut down; but wherever I have prevailed, the alterations have never failed to give entire satisfaction. I was called in some few years ago, to alter the grounds of a baronet; who, while I was inspecting directed my attention in particular to a plantation of at least fifteen years standing, formed for the purpose of concealing the kitchen garden. This, partly from want of thinning, and partly owing to the prevalence of that odious tree (the black Italian poplar), appeared to be a complete wilderness. I immediately directed the gardener to mark with white paint at least one-half of them to be cut down. The baronet expressed his surprise at the number, and said he was sure Lady — would be distressed at the idea of so many being removed; however, it was agreed upon that they should be taken down before her ladyship took her morning walk. I left before the operation was performed; and to my great surprise, although all my other plans had met with their unqualified approbation, in the course of a few days I received a letter stating, that only one-half of the number I had caused to be marked, had been cut down, and that the rest were to remain until I had paid another visit; and hoping that I should consider that sufficient, so reluctant was my kind employer to cut down his trees. Notwithstanding which, I still persevered in recommending the rest to come down, which was very reluctantly agreed to, and down they came, and undergrowths of common laurel, hollies, yews, dogwoods, to be introduced in their room; for it may naturally be supposed that their having been suffered to crowd each other so long, would entirely prevent them from ever assuming the form and beauty they would otherwise have done, had early pruning been attended to. My advice was followed and the nobleman has since called upon me, and expressed himself highly gratified with the improvements produced. On these grounds were several masses of silver firs, which would certainly have been the finest of the kind I ever saw, had they been properly managed; they were seventy or eighty feet high, but I am sorry to say it, destitute of branches to within ten or twelve feet of the top, instead of being furnished nearly to the ground, as they might have been, if they had been planted at a proper distance at first, and judiciously thinned afterwards.

A similar feeling prevailed with another baronet a year or two ago, who, although he professed to know a good deal about Landscape Gardening, had not acquired sufficient of the art to enable him to preserve either the form or grandeur in the growth of his trees; for many old ones about the house were crowded to excess, and drawn to an immense height nearly destitute of branches; and there they remain to this day, as if to reproach him for his obstinacy.

I am employed at present in laying out a park and pleasure grounds, and the only obstacle that has occurred to frustrate the whole of my designs, is that of cutting down trees. The opposition rose on the part of the lady of the house, who, I must confess, possesses considerable taste, though, in

this particular case, she was decidedly wrong. I was two years in obtaining her consent to remove two trees standing in a large mass, in order to open out a narrow vista. At last, on a late visit, I so far prevailed, by the aid of another gentleman, who happened to be dining with us, as to be allowed to remove one first, in order to see the effect; and although this shewed a good deal of my object, I was not allowed to take down the other. However, we hit upon another expedient, we contrived to cut the top off the other, so as not to disfigure the tree; and this entirely answered the end I had in view, and opened one of the prettiest vistas I ever beheld; in short, we were all highly delighted with it. I have adduced these instances, which have come under my observation, to shew the necessity of drawing the attention of gentlemen towards the management of their trees, as far as regards effect and ornament, and to encourage them to dash away their fears, and not to allow them to predominate to the injury of the landscape.

These are not fanciful speculations; they are the result of much practice and careful observation. Before I conclude, allow me to remark that the general practice of introducing nurse plants, as they are termed, into plantations, seldom proves to answer the purpose intended, resulting, in a great measure, from the want of early attention. The Italian poplar and the larch, for instance, are of such rapid growth that, in four or five years, they will overpower and materially injure the oak, the beech, and, in short, nearly every other kind of tree; consequently, at that period, care should be taken to relieve such by lopping off the branches of the nurse plants, and cutting down others, as may be required.

I am decidedly against the introduction of the black Italian poplar, either as a nurse plant for shelter, or any other purpose, unless it is quite certain that the whole are to be removed in due time, as it is, at no period of its growth, to be admired, but generally excessively ugly. When young, it never harmonizes with other trees; and, as it advances in growth, it soon becomes disproportionate, top heavy, and, in the end, so overbalanced as invariably to bear on one side, and frequently to become nearly prostrate. Indeed I am opposed to the family of poplars generally, except the Lombardy, which I should be sorry to condemn; on the contrary, when judiciously planted in groups, of from three to fifteen, in deep vallies, in dense masses of trees, or woods, and in connexion with churches or other buildings, especially those of the Gothic and Elizabethan style, a happy effect will be produced; but the country generally has become barbarously disfigured by the introduction of most of the other kinds, (but more especially the black Italian) that could I raise a hue and cry against them, so as to have them totally banished from the country, I should consider I had done justice to my own feelings, and to those of every one possessing true taste to landscape scenery; but am I not speaking too hastily? Is not the poplar the darling of a professor of landscape gardening, who has scarcely known how to say enough in its praise? Ought he not to possess a taste for landscape gardening? He ought, and does; but what kind of taste is it? Such a one it is hoped he now heartily repents of. Let him look round and see what frightful objects he has reared in many parts of the country; and surely his conscience will tell him he has done mischief enough already, and the only way in

which he can redeem his credit with the country, is to recommend the axe instantly to be laid to their roots, and, at one fell swoop, exterminate them all.

I will now conclude, with a hope that my early remarks on thinning, &c., may be of service, if not to those who have plantations of long standing, at least to those who are forming new ones, and advising that they will above all things, keep out that frightful object, the black Italian poplar.—*Flor. Cab.*

FRENCH AGRICULTURE.

(FROM THE GAZETTE DE FRANCE.)

M. Blanqui, in one of his last lectures on political economy, described the wretched state of French agriculture, and in inquiring into its causes, ascribed it to the atomistical morcelling of landed property, the enormous burden laid on farmers by the Legislature, and the scarcity and consequent elevation of the interest of capitals applied to agriculture. M. Blanqui stated that there existed in France 10,896,683 proprietors, and that the landed property was divided into 123,360,338 lots. He contended that this great parcelling of the land was contrary to the progress of agriculture, and tended much to increase the misery of a vast number of cultivators, the poorest of whom, decked with the title of proprietors bear the heaviest share of the land taxes, and are often without bread. As a proof of his statement, the professor adduced the returns of the quota of those taxes, from which it appears that 9,000,000 individuals pay less than 20f.; 500,000 from 50f. to 100f.; 50,000 from 300f. to 500f.; and 46,000 500f. and upwards. The tax on agriculture amounted, in 1836, to 250,000,000f.; but to form an exact idea of the burden under which it groans, it is necessary to add a sum of 99,000,000f., raised as registering duties on transfers, donations, and inheritances; 44,000,000f. for registry, stamps, or leases, mortgages, &c.; 26,000,000f. for the tax on doors and windows, and, what is called the additional centimes, which in 1833 amounted to 72c. of the land-tax. To these must be likewise added the interest, paid by the proprietors to their creditors on account of mortgages, &c., which amounts to an enormous sum. The Director-General of the Domaines has lately drawn up a report, in which he mentions that the number of individuals who have lent money on mortgages was 4,987,862, and that the capital thus vested amounts to 11,233,265,778f. In estimating the interest on this enormous capital at 5 per cent. (there are many parts of France where it is 8 per cent.) the yearly sum paid by the proprietors is 561,663,288f., which, if added to the above-mentioned taxes, produces a total of 980,663,288f. and with the additional centimes of upwards of 1,000,000,000f. Now, the yearly agricultural revenue of France being set down by M. Humann at 1,648,000,000f., and the landed property paying out of it upwards of 1,000,000,000f. in taxes and interest, well may M. Blanqui ask what remains to the cultivators, and answer—"Merely their eyes to weep."

A NEW SORT OF WHEAT.—Mr. Allen, of Whifton, has been exhibiting a choice specimen of wheat, of his own culture, which for size, bulk, and quality, is said to be unequalled. The ear contains 12 petals, each petal six grains, excepting the first, which has four very fine and perfect grains (the common kind of wheat usually contains none). It grows rather taller than wheat ordinarily grown, and the straw is exceedingly stiff and broad. The red specimen contains 90 grains in each ear; the white has only five grains in each petal, but in all other respects is equally as fine. Mr. Allen has as much in plant now (this being only the second season) as will produce about a coomb.—*Staffs. folk Chronicle.*



21 A 17 17 17
winner of the Doncaster St. Leger, for 1837

owned by J. R. Rogers, March 1st 1838

MANGO ;

WINNER OF THE DONCASTER ST. LEGER, 1837.

The winner of the St. Leger for 1837, who forms the subject of our second embellishment, was bred by Mr. Thornhill of Riddlesworth, who ranks as one of the best judges of racing at the present day, he has an immense stud at Riddlesworth, and has not been without his share of success upon the Turf, having won the Derby with Sam and Sailor, and the Oaks with Shoveler. Mango is a very dark bay horse, standing about fifteen hands three inches high; his head is straight and rather lean, neck light, and low down in front of his withers which are high, his shoulders are thin and he is very deep in the brisket, with strong arms and good legs and feet, his ribs are particularly round, with arched loins and wide hips, his quarters are long and drooping, with houghs and thighs which are remarkable for their immense strength. His race at Ascot with Flatman upon his back, against Rat Trap with Robinson, was the finest thing we ever witnessed, and will not speedily be erased from our memory, being in fact the best contest ever seen on Ascot Heath.

PEDIGREE.

Mango was bred by Mr. Thornhill, and is own brother to Captain Rock, Perfume, Pickle, Preserve, Marmalade, and Morella, by Emilius out of Mustard by Merlin; grandam, Morel, Sister to Truffle by Sorcerer; great grandam, Hornby Lass, by Buzzard—Puzzle by Match'em—Princess by King Herod—Julia by Blank—Spectator's dam, by Partner—Bonny Lass, by Bay Bolton—Darley's Arabian—Byerley Turk—Taffolet Barb—Place's White Turk—Natural Barb Mare.

PERFORMANCES.

On Tuesday, October 18, 1836, at Newmarket Second October Meeting, Mango started, but was not placed, for the Clearwell Stakes, T. Y. C., being defeated by Colonel Peel's ch. f. by Bedlamite out of Garcia and Chapeau d'Espagne.

At Newmarket Craven Meeting, Tuesday, April 11 1837, Mango walked over for a Sweepstakes of 200 sovs. each, h. ft. D. M. three subs.

At Epsom Meeting, Mango started, but was not placed, for the Derby Stake, being beaten by Phosphorus, Caravan, Mahometan, &c.

At Ascot Heath, on Tuesday, June 6, Mango jockeyed by Flatman, won the Ascot Derby Stake, from the Swinley-post-in, beating Edgar, Chapeau d'Espagne, and Adrian:—even on Chapeau d'Espagne, and 6 to 4 against Mango.

Same day, rode by Flatman, 8st. 7lb., he won a Piece of Plate, value 200 sovs., Handicap, for 3-year olds, Swinley Course, beating Velure, 8st.:—2 to 1 on Mango.

On Thursday, in the same Meeting, with Flatman upon his back, he won a Sweepstakes of 100 sovs. each, h. ft., for three-year-olds, Old Mile seven subs., beating Mr. S. Stanley's br. c. Rat-trap, who was ridden by Robinson;—6 to 4. on Mango.

At Stockbridge, on Friday, June, 30, again jockeyed by Flatman, Mango won a Sweepstakes of 100 sovs. each, h. ft., for three-year-olds, one mile and a half, beating Mr. Wreford's b. c. Wisdom:—6 to 4 on Wisdom.

At Doncaster, on Tuesday, September 19, ridden by S. Day, he won the Great St. Leger Stakes of 50 sovs. each, h. ft sixty subs., St. Leger Course, beating Abraham Newland, Troilus, Slashing Harry, Epirus, (who fell), Cardinal Puff, Prime Warden, Dan Dawson, Mahometan, Dardanelles, The Doctor (Mr.

Fox's), Henriade, and Egeria:—2 to 1 against Epirus, 5 to 1 agst. Mahometan, 6 to 1 agst. Cardinal Puff, and 5 to 1 against Mango.

At Newmarket First October Meeting (Wednesday Oct. 4), Mango won the St. Leger Stakes of 25 sovs. each, for three-year-olds, D. I., twenty-four subs. beating Troilus, Rut-trap, and Dardanelles:—6 to 4 on Mango, 7 to 2 against Rat-trap, 4 to 1 against Dardanelles, and 7 to 1 against Troilus.

In the Second October Meeting, Mango, three-years, 7st. 7lb., ran second to Lord Exeter's Velure, three years, 6st. 7lb., beating Colonel Peel's Castaway, five-years, 8st. 4lb.:—2 to 1 on Mango, 9 to 2 against Castaway, and 4 to 1 against Velure.

The same day, at 8st. 9lb., he received forfeit from Mr. Greatrex's c. by The Colonel out of Citron, 8st., T. Y. C., 300 sovs., h. ft.

THE AUSTRALIAN COLONIES.

The *Sydney Times* of the 26th of August contains the minutes of evidence given before a Committee of Inquiry on the great deficiency and consequent demand for British agricultural labourers, from which the following are extracts:—

James Bowman, Esq., late Inspector General of Hospitals.—I have not made minute calculation as to the wants of the colony, but I am quite certain that a very large number of immigrants may obtain immediate employment. I do not think 10,000 would be too many to import during the next year. If Europeans could be obtained in as short a time, or nearly so, as Indians, I would certainly give them preference; but if Indians can be brought soon, I will take some of them, being so much in want of servants. Each of my breeding flocks used ordinarily to consist of about 350 ewes, but, in consequence of the scarcity of shepherds, I have lately been obliged to increase the numbers from 500 and even 600 in a flock.

H. O'Brien, Esq., of Yass.—I have at this moment from 1000 to 1400 sheep in several of my flocks, instead of 600, which I consider to be enough in one flock. I have lately hired several freed men at very high wages, and I would willingly hire others at the same rates, if I could get them. If a sufficient supply of immigrants from Great Britain and Ireland can be obtained, I would much prefer them to Indians or Chinese; but, situated as we are at present, with rapidly increasing flocks and herds, and with hands infinitely short of the requisite number to tend them, I would recommend the immediate introduction of such numbers of the Hill Labourers of India and of Chinese, as the colonists shall previously enter into arrangements with the Government to receive and employ on their arrival here, under certain specified regulations as to wages and good treatment. Such a measure would prevent the introduction of persons whose services might not be required on their arrival in the colony.

J. H. Grose, Esq., late one of the Directors of the Commercial Bank.—I am of opinion that about 1000 agricultural labourers would be a sufficient number to import annually, to enable us to produce grain in such quantity as would be fully equal to the consumption. The want of mechanics is most seriously felt, and unless a very considerable importation of them is made within twelve months from the present time, the commercial interest of Sydney must retrograde. For weeks and months past shipwrights employed by me, working by piecework, have earned from 20 to 30 shillings per day each; and, as a natural consequence, they do not, on an average, work more than three days in a week. The present shipping interest of Sydney, which has more than doubled itself within the last two years, requires at least an immediate importation of at least 100 shipwrights, 500 able seamen, and 50 coopers. Ten English engineers from London or Liverpool would find immediate employment, at from 10l. to 20l. per month.

THE ROTATION OF CROPS.

(FROM "MORTON ON SOILS.")

"The course of cropping should be regulated by various circumstances. The kind and quality of the soil and its peculiar properties, the seasons, the most profitable application of manure, and the fact that no white or corn crops should be repeated in too rapid succession, are circumstances that always govern the prudent farmer in the adoption of a system.

"But the value of any rotation depends chiefly, if not entirely, on the quantity of food that is produced by the course for sheep and cattle, but particularly for sheep; and in its consumption on the farm, either in the field or in the stall. "No food, no cattle; no cattle, no dung; no dung, no corn;" is a maxim that ought to be fixed in every farmer's mind. Turnips, vetches, rye, clover, and saintfoin, are indispensable in every good course, as winter, spring, and summer food; and the greater the crops of these are, the greater and more productive will be those of corn. These crops, of which the turnip crop is the principal, may therefore be considered as the foundation of all good husbandry. We have before stated that the succession of crops should be determined by the nature of the soil, the proper distribution of labour throughout the year, the greatest quantity of food for stock, particularly sheep, that can be kept; and that a crop of corn should never be succeeded by a crop of corn. The alternate system of cultivation ought to be rigidly adhered to, unless a repetition of green crops should be thought an advantage to the land, and produce a greater profit to the farmer in animal than vegetable food. Keeping the above principles always in view, the rotation of crops may be changed in endless variety in deep friable soils; but on heavy strong clays they are more circumscribed.

"Clover, vetches, and cabbages, are the only crops which can be raised as food for sheep or cattle on the latter; and cabbages cannot be eaten off by sheep on such land. There is more expence in the production and consumption of the crops on wet clay land, than on a dry friable soil; and therefore the expence of improving such land is greater. The crops must be carted to be consumed in the yard by stock, and the dung carted again into the field: besides, the injury done to the land in wet weather by carting off the crops is great. Vetches and clover may, however, be folded by sheep in the summer months on clay soils.

"On good, strong, rich, clay land the following rotation is productive:—

"1.—Clover to be consumed on the land by sheep.

"2.—Wheat.

"3.—Beans to be dunged on the wheat stubble.

"4.—Wheat.

"5.—Winter vetches to be dunged on the wheat stubble, and folded off by sheep.

"6.—Wheat sown with seeds.

"Oats may be substituted for any of the wheat crops, and cabbages may be planted instead of the vetches or beans.

"The following is an excellent rotation for a friable turnip soil, where it is necessary to guard against reducing the soil into a too friable state; and it also gives food for a great stock of sheep.

"1.—Turnips or Swedes manured with dung, bones, and rape-cake; and fed off by folding sheep on the land.

"2.—Barley, with a variety of seeds.

"3.—Seeds, pastured by sheep or other stock.

"4.—Second year seeds, also pastured by sheep or other stock.

"5.—Oats.

"6.—Potatoes, mangel-wurzel, beans, or winter vetches, dunged on the oat stubble.

"7.—Wheat.

"Here the different crops, of corn, are only once in seven years, and those we may reckon to be the most productive. The quantity of food produced by turnips, and by the two years clover and vetches, will enable the farmer to keep and fatten a large quantity of sheep on the ground, which will, by their trampling, and by the manure left on it, give to this kind of soil the best preparation for the succeeding crops of corn. We are satisfied that the land, while producing food for stock, if the stock be properly managed, will give fully as great a return of profit to the farmer, as by producing corn, it can possibly do, without having the advantage of the results of the sheep fold.

"This mode of folding sheep is the foundation of a continuance of productive crops, and also of a gradual reduction of the expence of labour, conjoined with a gradual increase of the productive powers of the soil."

THE ACQUISITION OR THE LOSS OF PURE BLOOD IN THE BREEDING OF THE HORSE.

(FROM THE VETERINARIAN.)

[We extract the substance of this essay on account of the singularity of its mode of reasoning, and the importance of the truths which it develops. It is extracted from *Le Journal Des Haras*, a French sporting periodical, edited by Le Comte de Montendre, and which is rapidly increasing in respectability and value.]

Many persons who are practically occupied in the breeding of the horse, little familiar with the language of scientific men, and having a mere superficial knowledge of the different breeds, and the laws which govern their origin and their preservation, know not how to determine the increase or loss of pure blood which will result from the employment of two individuals of different breeds. They understand that, by the coupling of a horse of pure blood with an ordinary or indigenous mare, the progeny will be *half-bred*; they believe that, by the union of this half-bred mare with the same father they will have a progeny three-quarters bred: but they cannot comprehend how it is that they have not pure blood in the third generation. There is a great deal of roguery about these different gradations of blood; interested or dishonest dealers talk loudly of

$\frac{7}{8}$ and $\frac{15}{16}$ of blood, but few seem to comprehend the real proportion of pure blood which exists in a horse that has any deviation from absolute purity.

It may be therefore received as a principle, that, from the union of two individuals of different breeds, a half-bred progeny is produced; i. e. containing half of the father and half of the mother. Then it is easy to draw up a kind of scale by which we may easily determine the degree of pure blood that any generation, however distant, may possess; or the proportional quantity of pure and common blood which flows in the veins of any horse whose progeny is known.

A recourse to figures is here necessary, in order clearly to express the proportional transmission of pure blood to racers of inferior value. Let us call the horse of pure blood *Régénératrix*, or express him by the letter R, and he shall be equal in value to 1. The mare shall be called *Dégénéré*, expressed by the letter D, and her value 0. Then the progeny which may result from the union may be characterized by the letter A, *Amélioré*, and it is composed of half of the father and half of the mother, and thus decimally expressed $\frac{1+0}{2} = 0.50$, or $\frac{1}{2}$.

Then we suppose that this progeny, being a mare, is covered by another thorough-bred horse, and the calculation will stand thus, $\frac{1+0.50}{2}$ or $\frac{1.50}{2} = .75$, or three parts pure blood.

We carry it on to another generation. The progeny shall again be a mare, and be covered by another thorough-bred horse, and the result is $\frac{1+0.50}{2}$ or $\frac{1.75}{2} = .875 = 7$ pure blood.

The fourth generation will thus stand, $\frac{1+0.875}{2}$ or $\frac{1.875}{2} = .9375$, or $\frac{15}{16}$.

The tenth generation would give, as the reader may work out if he pleases, $\frac{1023}{1048576}$ pure blood; and the twentieth would possess $\frac{1048575}{1048576}$ of pure blood; thus we should constantly approach nearer and nearer to the unit expressing the value of the father, but we should never quite arrive at it. The deficiency would be so slight as not, to any extent worth consideration, depreciating the value of the offspring, but the pure blood would never be absolutely reproduced.

This is a very important view of the science of breeding; for, if the principle here stated is true—if it is rigorously just—it must be admitted that every breed, brought to a certain state of excellence by this uninterrupted succession of improvement, may sustain itself in this state of excellence without having recourse to the pure breed from which it derived its first principle of improvement. All that is necessary is, to employ, for the purpose of reproduction, animals of both sexes uniting in the highest degree the essential moral and physical qualities of the improved race. There are, however, great difficulties attending the conservation of this race; and without incessant care deterioration from the point attained will soon be evident.

In despite of the worth of the breed which may have been established—although it may approach as nearly as possible to the pure race, both as to form and endurance—still it carries in its blood a maternal indestructible germ of debasement; always ready to develop itself, by little and little, under certain local influences—always under the power of divers agents impairing or modifying the general economy, until, at length, a certain alteration of form, an impairment of the moral qualities, an effacement of the paternal type, takes place, and a reproduction of the

stock of the mother, with all its characters of inferiority. He therefore will act wisely who, from time to time, regenerates his own improved stock, by crossing it with pure blood that has no heterogeneous ignoble stain.

If we couple together a half-bred horse with a mare of the same standard, the character of the progeny would, according to the calculation just now made, readily appear $\frac{0.50+0.50}{2} = \frac{1.00}{2} = 0.50$.

The progeny would be of precisely the same grade as the parents. Experience, however, tells us that this is not the case; the produce of the two half-breeds undergoes a certain degradation, and its value would be over-rated at .050, or $\frac{1}{20}$. This may appear to be an anomaly; it is only apparently so, and implies no contradiction to the principle laid down: on the contrary, this degeneration strengthens the rule, and clearly shows that the pure blood is the essential ameliorator. It proves that part of its influence is annulled—that part of its regenerative power is lost by the sole fact of its mingling with blood less pure, less rich, and by means of which its agency is modified, its power diminished. It has to combat both the local influences, which are more or less opposed to the success of the cross, and the tendency to the reproduction of the maternal type arising from its being indigenous to the country.

If we apply the same reasoning to superior crosses—to generations the most distant from the original inferior native stock—we shall not hesitate in acknowledging that the value of the created breed cannot be maintained by selection from that breed alone. The degeneracy may be slow, insensible, long unperceived, on account of the power which the pure blood has to repel contamination; but that blood can only retard the tendency to retrograde; it can never altogether arrest the progress: that must be effected by occasional, and, perhaps, not unfrequent mixture of the pure blood.

Another thing should not be forgotten, that the march of degradation having commenced, and no recourse being had to that by which alone its progress can be arrested, it will proceed with fearful and yearly increasing velocity. The table by which is seen the improvement of the race under the constant influence of pure blood, will also express the rapidity of the degradation.

Supposing, finally, that a mare, that has approached to that degree of purity of blood which our table has given to the 30th generation is crossed by a horse of no breeding, and this system is carried on, the table will precisely express the rapidity of the degeneracy. At the 4th generation there will only be $\frac{1}{16}$ part of pure blood remaining; at the 10th not a thousandth part; and at the 20th not a millionth part. These are important truths, and deserve to be well considered.

CARROTS.—The Rev. J. Monkhouse, of Lizzick Hall, this year grew a crop of carrots, at Lizzick, on the side of Skiddaw, which seems to have been equal to Colonel Graham's famous crop. The land, about one-sixth of an acre, is of a dry shivery nature, and was managed for early potatoes; and the produce was five tons; or about thirty tons per acre. This, at 2s. per cwt., would yield 60l. per acre. Two of the carrots weighed 7½lbs., and 28 of them, 56lbs. Specimens of this fine crop may be seen in the shop of Messrs. Hutton, of this city, where, we understand, the seed was purchased.—*Carlisle Journal*.

COTTAGE AND BARN FLOORS.

(FROM THE MAGAZINE OF DOMESTIC ECONOMY, FOR FEB. 1838.)

Though precisely the same materials used in the Cotswold Hills may not perhaps be found in every part of the kingdom, still matter bearing a close resemblance, and equally good, is to be obtained in most of the agricultural districts of the empire. Floors of equal durability and hardness with those of the Cotswold Hills, may therefore be made at an expense quite as low as that of lime-ash, if not lower. Throughout the whole of the West of England, as throughout the North—in short, wherever quarries exist, either of limestone, granite, or building-stone of any texture, good and available materials are at hand.

The superstratum immediately next the soil of the Cotswold Hills is composed generally of lumps of a very compact calcareous earth, more or less fine, forming a species of gravel. This is mixed in equal proportions with the chippings from the quarries of calcareous granite, whence the building-stone is taken for which this part of the country is celebrated. These materials are employed dry, to make the floor. They are first sifted through a coarse wire sieve, or through a screen, in order to separate the coarser gravel, which is put in a heap by itself. A finer sieve is then used, to extract the smaller gravel, which is likewise formed into a separate heap, leaving by itself the finer particles, which are in greater abundance than either of the heaps drawn from them by the operation of sifting. The bed of the floor being now prepared as smoothly and evenly as possible, the larger stones are placed at the bottom, the interstices between them being closely and with great pressure filled up with the finer gravel. Upon the latter are placed the finest particles, care being taken to trim down each layer, so as to bring it closely and firmly upon the one immediately below it. The upper surface is then equalised with a level, which is also used until the floor is completed. Thus, on the surface, evenness is observed to a mathematical nicety. The layers collectively form a tabular mass about twelve or fourteen inches thick. The workman being satisfied with the surface, the operation of beating begins. This is done with a wooden beetle, and is continued not only until the upper surface is close and combined, the whole mass homogeneous, and its particles as adherent as if created in one mass, but until the whole floor vibrates simultaneously, and rings at each stroke of the instrument, like an unbroken plate of metal of equal dimensions. If Mr. Mac Adam had seen these floors, he might have received a hint for his roads; on the other hand, had the Cotswold floors not been in use long before Mr. Mac Adam was born, his roads might have suggested them. But Mr. Mac Adam's roads are dusty; these floors are not, being as clean as a well-washed pavement of flag-stones.

The advantage of having, in barns, floors strong and adherent enough to resist the flail, and in cottages, floors that will kindly second the efforts of the besom, retain their evenness, and not harbour the wet, is so obvious that I need not descant upon it. To give publicity to the method of flooring which I have just described, will therefore be to bring it into general use throughout the country. The ordinary gravel found in the midland counties, even the round shingles on the coast of Kent and Sussex, would serve admirably to form the first layer; the smaller gravel for the second, and a

mixture of still smaller gravel, mixed with the chippings from limestone quarries, might constitute the third.—The whole art of forming such floors seems to lie in using the materials dry, and beating them into consistency. The system of beating dry materials in the formation of terraces and flat roofs, I have seen pursued in India, at Naples, and also at Laguna, in Teneriffe; I therefore ought at once to have detected the *modus operandi* in producing these stone floors. But

Nemo omnibus horis sapit;

by which I do not mean to insinuate that I am, at any time, wise in the abstract sense, but only comparatively wise, though not sufficiently so, to see further than my neighbours. This I urge in due humility, dear reader, that thou mayest acquit me of all quackery, or undue pretension in describing the useful object which accident has enabled me to offer to thy notice.

* * * *

A good woman from the Cotswold Hills, had come from the Wolds to live as an upper servant with a family near Westbury-upon-Severn. At Coleford, she had married a forester, the father of some children I saw, who possessed some coal gawles (pronounced gales) in the forest, which he was working on his own account. He had built the house they lived in and she, recollecting the floors in her part of the country, had urged him to try one in their new habitation. Being something of an experimentalist, he thought he might improve upon the Cotswold practice, and accordingly devised the following mixture. The molten iron, in the first process of smelting, throws off, at the casting, a scoria composed of the dross of the metal and of the fuse used in smelting it, which latter consists principally of limestone. This scoria forms a very compact, beautifully-veined, heavy, and partially-vitrified mass, which has a beautiful appearance, and bits of which, lying about the country contiguous to the iron works, are often mistaken by strangers for exquisite specimens of—they know not what, and are often taken away as such to puzzle the amateur mineralogists,

Who dwell in cities, and pore over books.

This substance is at first extremely brittle, but in the course of time it becomes tenacious, and is with difficulty broken. The scoria may be obtained for the trouble of taking it away. It is reduced to powder by some industrious persons, by means of wheels worked by water-power, giving action to heavy hammers. This powder is used in the glass-houses, to make or assist in making the best glass; it is also used, when reduced to impalpable fineness, in a state I will not say of solution, but of mechanical mixture with water, to impart an agreeable colouring to the stone frontages of dwelling-houses.

The old iron-works of the Forest of Dean yield also another material in the form of hard cinders, mixed more or less with metal. These cinders were probably left from the Blomary forges of the Romans, who were ignorant of the art of smelting. The cinders still contain much iron-ore, and are now used in the smelting furnaces. Having performed this second service, they are thrown aside, and by atmospheric action become very hard.

My good-natured hostess informed me, that her husband had broken up these two materials, and mixed with them chippings from the stone quarries in the neighbourhood, and gravelly stones found also in the subsoil of this part of the forest. The result was, the floor I so much admired, which, I have no doubt, will last in a good, sound condition, as long

as the house itself, perhaps longer, though this is built of very solid stone, the produce of the Forest quarries. A fact so positive, proves what will greatly facilitate the adopting of the Cotswold floors, that most, if not all, stony matter has a tendency to adhere, or to form, in the very learned words of a modern writer on geology, "homogenous and solid massification." It therefore follows that barn and cottage floors might be made equally well with stony matter, differing essentially from that of the Cotswold Hills.

IMPROVEMENT IN AGRICULTURE. NATIONAL AGRICULTURAL INSTITUTION.

"In everything relating to manufactures and commerce we are on the eve of a new era. Millions of our fellow creatures depend for their means of subsistence on the 'onward movement' of this system. We cannot retrograde to the simple practices of by-gone days; hence we say, and maintain, that all the manufacturing and commercial nations of the earth must accommodate themselves in time to the circumstances of which we notify the advent, otherwise those who do not accommodate themselves, will be left behind, like the mile-stones on a road, which are or will be superseded by a railroad."

Daily experience so completely confirms the soundness of the observations quoted above, that it would be a useless waste of time, were we to advance a single argument in support of a proposition so well and pithily expressed. If, however, the doctrine of "onward movement" be correct in reference to "manufactures and commerce," is it not equally so when applied to Agriculture? Has the art of cultivating the soil attained such a degree of perfection as to render further improvement unnecessary or impossible? There is not an individual in the three kingdoms competent to give an opinion, who will assert that such is the fact. We say *competent* to give an opinion, because we know full well that there are thousands and tens of thousands of farmers, who are perfectly satisfied that their system of cultivation and farm management is perfect; and who would ridicule and reject any "new fangled" plan which might be suggested to them, just as upon the first introduction of the two horse plough, without a driver. Such men we hold to be utterly incompetent. It is no less remarkable than true, that although the minds of the ignorant are open to credulity and superstition they are exceedingly sceptical in regard to any extraordinary statements bearing upon any part of the business of life coming under their immediate notice. Were a traveller to meet with an ignorant and illiterate rustic in a secluded country village, who had never heard of a railroad steam carriage, and were to tell him that in the country he came from a ghost all in white might be seen every night at midnight to enter the village church, and that the doors flew open to admit it, and closed again without a key being applied to the lock, and also that there were carriages passing through the parish, which travelled without horses at the rate of 40 or 50 miles an hour, the countryman would be found to give credence to the ghost story, whilst he would reject the carriage story as utterly impossible. Those

who are most unacquainted with the improvements which have been made in the various departments of science or art, are least inclined to place confidence in the progress of improvement. The most skilful engineer will, notwithstanding the perfection which the application of steam power to the purpose of conveyance both by sea and land, seems to have attained, be found the most sanguine in his expectations of further and great improvements. So in Agriculture the best educated the most enlightened, the most eminent practical farmers, entertain the strongest conviction that every department of agriculture is capable of great and important amendment. Since the announcement at the Smithfield Club Dinner by Earl Spencer and the Duke of Richmond of their desire, to see an "Agricultural Institution" established, we have received communications upon the subject from some of the most eminent Agriculturists and large landholders in the three kingdoms, highly commending the object. Some of these communications being intended for publication have appeared in this journal; others being rather of a private nature, have been withheld. The proposition has also been discussed in upwards of fifty country journals, and in every instance highly approved. The first separate and distinct publication upon the subject has just appeared from the pen of H. Handley, Esq., M. P., and is entitled "A Letter to EARL SPENCER, on the formation of a NATIONAL AGRICULTURAL INSTITUTION," and is published by RIDGWAY. We were highly delighted when the intimation was made to us, that Mr. Handley had taken up the question; his sound practical knowledge, the zeal and energy, which he has always displayed in promoting the real welfare of the Agriculturist, and the well merited confidence which the Agricultural body reposes in him, render him a valuable coadjutor to the Noble Lords who originated the proposition. We anticipated much gratification from a perusal of Mr. Handley's letter, and our anticipations have been fully realized. The subject is treated in a clear, perspicuous, and unostentatious manner, and should be carefully perused by all those who entertain any doubt of the benefit which might be derived from the establishment of a "National Agricultural Institution," if any such there be. We subjoin the letter for the benefit of our readers:—

MY LORD:—The following pages, written with the view of arousing the attention of my brother agriculturists to the advantages which might be derived from the formation of an institution to promote practical agriculture on scientific principles in England, would probably never have been submitted to the public, but for the observations which fell from your lordship, when presiding at the Smithfield Club Dinner, on the 11th of December last.

It was most gratifying to me to find that the project which I had long cherished, but which I had almost despaired of seeing effected, had engaged the attention of your lordship, and was hailed with acclamation by the numerous company of agriculturists there assembled.

In canvassing the subject heretofore, I have found that the comparative failure of the board of agriculture, once deemed worthy of a parliament-

grant, and for more than twenty years carried on under the zealous and able superintendence of the late Sir John Sinclair, has been frequently quoted as a discouragement to any similar attempt. In this objection there appears to me to be but little weight. The board of agriculture existed at a period when it was least likely to attract the settled attention or command the energies of agriculturists. It was discontinued, too, at the precise time when, as subsequent events have proved, it ought to have been established.

A period of war is ill suited to national improvements of any kind: during the continuance of war prices, when half a crop remunerated the grower, and the most slovenly farmers amassed wealth, the usual inducements to extraordinary exertions were wanting; and we of the present day, to whom the quotations of "wheat from six to eight guineas per quarter" are but as dreams of fiction, are not only not surprised that our more fortunate predecessors did not effect more,—we only wonder that, if possible, they did not exert themselves less.

In 1817, however, the date when the board of agriculture ceased to exist, a new era was about to open upon us; and without discussing the debatable causes of the depression of agriculture, which has since ensued, whether arising from the transition from war to peace, the resumption of cash payments in 1819, excessive importation or over production, it is sufficient to have ascertained that a vast reduction has taken place in the prices of agricultural produce; and it is at least prudent to anticipate that for the future we must look to comparatively low prices, subject of course to the variations which seasons and circumstances must from time to time necessarily entail.

Farmers are, I believe, at length convinced, that it is not in parliamentary interference that they must seek a remedy.

Repeated enquiries have terminated in repeated disappointments. It is to their own energies and their own resources they must look, and by cheapening the cost and increasing the amount of production pave the way to future prosperity.

It is impossible, as was observed by your lordship, for any one acquainted with the subject, in travelling through many parts of the country, not to be struck with the still wretched modes of farming, and the little improvement they exhibit in the art of cultivation.

Those who were attentive observers forty years ago of English agriculture, while they may condemn the comparatively stationary condition of arable lands in many districts, will nevertheless bear testimony to the rapid and marked improvement in the breed of sheep, which has taken place during that period.

This is, I believe, largely attributable to the stimulus which has been afforded by the Smithfield Club, and those minor and tributary societies, which have been established on its principles throughout the country, and which have been the means of directing the efforts of the breeder to the production of such animals as unite the most profitable qualities.

Great attention and expense, spirited emulation, and well directed experiments, grounded upon scientific principles, have succeeded in producing that near approach to perfection in breeding and feeding cattle, which was so pre-eminent at the late Christmas show. Why, then, should not the same combined efforts be united in the application of science to the sister art, agriculture, which your

lordship has justly pronounced to be "still in its infancy."

I am well aware how strongly prejudiced were farmers of the old school against what they were pleased to call "book-farming." Theory, was a term which they held synonymous with ruinous speculation,—its effect nothing, its tendency the Gazette. And even where chance, rather than well considered experiment, had produced a favourable result, such was the suspicion with which they regarded the innovation, that it was not until their neighbour had reaped repeated and substantial benefits from it, that they were seduced into availing themselves of the improvement. Confined during their lives to their own immediate neighbourhood, with no further intercourse with the world than their market town might afford, and with minds uneducated either to seek or appreciate information, we perhaps ought not to be so much surprised, that whatever improvements may have been discovered, have scarcely travelled beyond the limits of their first application. In proof of this, I would quote the use of bone manure; which, incredible as it may appear, though it has for the last twenty years worked miracles, and changed the face of the midland counties, is at this time viewed as a new discovery in many districts of England, by no means remote from the scene of its earliest and continued success.

That class is, however, fast passing away. Education, which happily has penetrated into every quarter of the country, has furnished in their place an intelligent and a thinking race of men, who desire knowledge, and who are ever striving to obtain it. The facilities of internal communication throughout the empire have tempted and aided their endeavours. There are few young farmers with adequate means who do not avail themselves of it to see and learn; and the comparisons which they have been thereby enabled to institute between the varied systems of farming which pervade different districts, become the subjects of their consideration, and are, according to their supposed merits, adopted or condemned.

It is to encourage and direct the praiseworthy efforts of this valuable and deserving class, that I call upon your lordship and the landed proprietors of England, for your own sakes as well as theirs, and permit me to add, for the credit and advantage of our common country, to bring to bear upon this subject the invaluable aid of science.

Science—by which is to be understood, that knowledge which is founded upon the principles of nature, illustrated by demonstration—is the pilot that must steer us into those hitherto imperfectly explored regions, where I am well convinced a mine of wealth is still in store for British agriculture. Chemistry, botany, entomology, mechanics, require but to be invited, to yield us a harvest of valuable information to guide and to warn us.

What has been the course adopted by our enterprising manufacturers? Had they been satisfied with the inventions which chance, or the intelligence of their artisans might have discovered, in vain would they have struggled for the proud ascendancy which they now hold in the scale of the manufacturing world. How truly has it been said, that a Manchester manufacturer, who had been absent from England for the last seven years, would be ruined, if, on his return now, he endeavoured with his former processes is to compete with the almost daily improvements of his inde-

fatigable and intelligent rivals. How many thousands of acres of land would the bleaching operations of Manchester alone require,—what enormous capital would lie stretched for weeks unproductive on the sward,—and how impossible would it have been to have completed the accumulated orders from foreign customers, had not chemistry furnished a cheap and rapid substitute?

How much of scientific research must have been employed to unite for their ingenious purposes the products of all climes, as has been so forcibly demonstrated in the case of the commonest printed calico, which the talented author of a recent pamphlet observes “combines the united products of the four quarters of the earth;—the cotton of America, the indigo of Asia, the gum of Africa, and the madder of Europe,—all brought from remote regions to produce a rustic's gown-piece.”*

How widely different the picture which agriculture presents! Since the introduction of the turnip as a field crop, upwards of a century ago, we look in vain for any improved practice that may be viewed as an epoch in the cultivation of the soil; and we are still so far in ignorance of the first principles of our science, that we do not yet know with accuracy in what the food of plants consists.

There are those perhaps who will reply, that manufactures are altogether works of art,—that they are of recent invention, and may be said to be still in their infancy; but that the cultivation of the soil is based on nature,—that it has existed from the earliest ages, and that although improved modes of working it may be from time to time contrived, earth is the same element as heretofore, and nothing essentially new remains to be discovered. It is to such I would address the following observations, and endeavour to lay before them some examples of matters intimately connected with the cultivation of the soil, of which we are ignorant, and which are involved in doubt and mystery; and although, in so doing, I disclaim any wish to be considered as laying down a course of enquiry for the society to pursue, (a subject which I confidently trust will ere long be discussed by far better judges than myself,) it may not be altogether useless to place before those who have not given the subject their consideration, some insight into the benefits that may be derived from submitting even our daily operations to the test of science.

Practical experiments, by which doubts might be solved, would possibly demand a series of trials for their solution. The tardy processes of nature, the innumerable contingencies which more or less affect agricultural operations, such as seasons, hidden properties of soil, and the like, producing, from apparently similar causes, dissimilar results, frequently render such experiments perplexing and unsatisfactory; by chemical tests they may be at once discovered.

Sir Humphrey Davy, whose vast talents would probably never have been directed to agricultural chemistry, but for the establishment of the Board of Agriculture, and whose contributions, important as they are, would doubtless have been corrected and extended, had his valuable life been spared, thus defines the subject—“Agricultural chemistry has for its objects all those changes in the arrangements of matter connected with the growth and nourishment of plants; the comparative value of their produce as food; the constitu-

tion of soils; the manner in which soils are enriched by manure, or rendered fertile by the different processes of cultivation.” Inquiries of such a nature cannot but be interesting and important both to the theoretical agriculturist and to the practical farmer. To the first they are necessary in supplying most of the fundamental principles on which the theory of the art depends. To the second they are useful in affording simple and easy experiments for directing his labours, and for enabling him to pursue a certain and systematic plan of improvement. “It is hardly possible,” he adds, “to enter upon any investigation in agriculture without finding it connected, more or less, with the doctrines or elucidations derived from chemistry.”

I have already observed that we do not as yet know with accuracy what constitutes the food of plants. Certain, however, it is that the soil itself is but the medium of communicating support; for according to Sir H. Davy, the ashes of plants yield of earth but $\frac{1}{50}$ of the weight of the plant that is consumed. This fact only renders it the more essential that we should discover how we may best charge that medium with matter most conducive to vegetable life.

Experience has proved that farm-yard manure furnishes to all soils abundance of soluble matter, which is greedily imbibed by plants, and by means of which they thrive; and yet in what mode that manure is best prepared, and in what state it is most beneficially applied to the soil, is still vexata questio; and while we read the treatise of Mr. Blaikie, describing the well pressed pie,* and “thoroughly fermented mase” adopted generally in Norfolk, we hear that his noble employer, the Earl of Leicester, than whom no one has done more to test the theory of agriculture, by accurate and persevering experiments, has seen reason to differ from that doctrine, and applies his manure as fresh and unfermented as he can.

This diversity of opinion has not, however, been confined to Norfolk. Sir H. Davy, who has strenuously argued in favour of unfermented dung, on the grounds of the great loss of nutritive matter from drainings and evaporation, even carried his theory to the application of straw in its natural state.

In this he has been contradicted by practical experiments; but other writers have gone into the opposite extreme, and not contented with condemning unfermented manure, as encouraging weeds, multiplying grubs and insects, and originating diseases prejudicial and even fatal to vegetable life, have recommended, especially for turnip crops, dung which shall have exhausted all powers of fermentation, and given a preference to that which has lain in the heap two years.

Certain it is that the balance of advantage must lie somewhere; and agriculture furnishes few more interesting or important subjects for the investigation of science, than the most efficacious and economical preparation of that matter, which universal experience proves, and all admit to be eminently conducive to the fertility of the soil. Such investigation would also comprise the value and treatment of liquid manures, so highly prized in Flemish husbandry, but which, doubtless from ignorance of their application, have been attended with much disappointment in many experimental cases in this country.

Above all, the solution of these disputed points, by proving the value of a right system of treating dung, would, it is to be hoped, rouse the attention

* Mr. Cobden.

of farmers to a better construction of their yards, and induce them to forego those slovenly habits with reference to their manure heaps, which under any circumstances prove wasteful and prejudicial.

It has, however, always appeared to me, that there is no field for chemical investigation so unbounded and so favourable for promoting agricultural improvements, as that afforded by mineral manures.

Although fortuitous result has developed the advantages of *lime* as applied to agriculture, and it has in a variety of districts long been, next to farm-yard dung, in the most general use as a manure, its action upon soils has been matter of great contradiction and dispute amongst writers upon agricultural chemistry; and while all admit its value, none appear to have positively demonstrated the principles of its action. Instances innumerable of its varied, and in many respects contradictory operation are to be found among those who have written upon the subject. When due regard has been paid to the principles and purposes of its application, it has been found to aid the fertilizing properties of the soil; but it would appear that it has much more frequently in the hands of the ignorant and the injudicious, impoverished rather than enriched, and rendered sterility more sterile.

Vast sums of money have been, not only uselessly expended, and much labour has been thrown away in anticipation of beneficial results from the use of lime, which, had the subject been better understood, might have been saved, but positive injury has resulted, which in thousands of acres has proved irremediable.

Of its mechanical effects in giving consistency to the staple of light soils by attracting and retaining moisture, and in rendering clays more friable and porous by its tendency to reduce their cohesive qualities, there seems to be no difference of opinion, except as to the quantities to be applied. It is also admitted that a certain portion of calcareous earth is essential to all soils; that it is found in the ashes of most plants, but that un-mixed it is incapable of rearing plants to perfection.

That there are limes of various quality, that the presence of magnesia in some is injurious to vegetable life, and that in order properly to direct its uses, a careful analysis, not only of the lime itself, but of the constituent properties of the soil to which it is to be applied is absolutely essential.

Yet, whether it be a *septic* or an *antiseptic*, whether as Sir H. Davy pronounces, "In those cases in which fermentation is useful to produce nutriment from vegetable substances, lime is always efficacious," or as has been argued by Hayward and others, "Its chemical constitution is such as to facilitate the decomposition and reduction of the roots, leaves and stalks of vegetables to a soluble state without the process of putrefaction," whether it be an *enriching* or an *exciting* manure, or merely an *alterative*, it is evident that unless, like medicine to the human frame, it be administered with a skilful and judicious hand, instead of imparting health and vigour to the soil, it will debilitate its already too feeble resources and create a disease more hurtful and incurable than that which it is sought to remedy.

The foregoing observations will also in a great measure apply to *chalk*; for as it frequently contains heterogeneous matter which impairs its efficiency, it becomes of essential importance, that

the farmer should not only accurately ascertain its component parts, but also the constitution of the soil to which he proposes to apply it. I cannot better illustrate this position, which bears especially upon all mineral manures, than by relating an anecdote recently communicated to me by a nobleman resident in Essex.—Having observed on his estate in Berkshire, that the tenants derived great benefit from the use of chalk, and the soil being of a similar character to that which he possessed in Essex, where also he had a chalk pit, he submitted samples of both chalks to be chemically tested by a friend, who pronounced them to be precisely similar. When, however, it was applied to the land in Essex, it produced no effect. The gentleman who had examined the chalks was subsequently visiting his lordship, who pointed out to him the failure of the experiment in respect to its operation on the crops. He immediately observed that the respective soils should have been accurately analyzed also, for on inspection it was proved, that the Essex soil, though to the casual observer it presented the same appearance as the Berkshire, was already largely impregnated with nodules of chalk, the result probably of some remote convulsion of nature.

Another mineral manure to which I will allude as affording great scope for scientific investigation, is *gypsum*; the contradictory reports of the efficacy of which, are if possible more numerous than of any other of the calcareous earths. Although still used in some parts of England with effect, it cannot be denied, that it has generally speaking been productive of disappointment; and notwithstanding some years ago great results were promised from its application, and the most conflicting experiments furnished, it has gradually lost its hold on public attention, and is now little known to practical farmers. This, however, is very irreconcilable with the fact that in America and on the continent of Europe its beneficial application to agricultural purposes is universally admitted, and the practice is yearly increasing.

A Prussian Nobleman, who ranks high also as an agriculturist, has recently informed me, that so valuable is it considered in his country, that they annually import it largely from Mont Martre, as may be conceived from the distance, at vast expense, and that the extensive trade carried on throughout Germany in Dutch ashes, arises solely from the fact, that they yield gypsum, in proportion to which, they are deemed more or less valuable. Its application, it is true, is confined to green crops, as clover, lucerne, sangfain, and the like, known by analysis to contain gypsum, which grain crops do not, the produce of which it increases in a most marked and profitable degree. Whence then, this discrepancy? Is it that in England it has been applied indiscriminately to all crops and to all soils? To some of the former which do not imbibe gypsum, and of the latter which already contain it to repletion? Is the gypsum usually found in England of inferior quality, or has it affinities with any peculiar properties of certain soils which neutralize its effects? To the agricultural chemist probably belongs the solution of the difficulty, and the settlement of the disputed point, whether gypsum be entitled to our consideration as a manure, or not.

The greatest anomaly, however, and the problem most difficult of solution, and at the same time, the one which I have always thought most worthy of investigation, is how far *salt* is beneficial as a manure. No mineral exercises so great

an influence upon vegetable life, and none is so little understood; many earths yield it; the most valuable manures contain it; it is more or less present every where; it appears to be in many respects essential; yet we have scriptural, classical and modern authority as to its baneful influence on vegetation. The ruins of Sechem, and the

"Salsa autem tellus, et quæ perhibetur amara,
"Frugibus infelix,"

of Virgil, are proofs of its estimated qualities in earlier ages; while the contradictory evidence given before the Parliamentary Committee in 1818, the able and elaborate treatise of Mr. Cuthbert Johnson, and the replies which it has called forth, prove at least that much difference of opinion exists amongst those, who have given the subject their attention.

Your Lordship well recollects the anxiety manifested by agriculturists to take off the tax upon salt, and the clamour raised against it when its repeal was advocated by the late Mr. Calcraft. Mr. Curwen "considered the importance of the free use of salt to agriculture could scarcely be estimated too highly;" while the representatives of the salt districts of Cheshire declared open war against the Chancellor of the Exchequer to free their country from the hated presence of the exciseman. They eventually succeeded, but who have derived the benefit? Why, the ever enterprising and indefatigable manufacturers! The soap boilers, the glass blowers, the bleachers, and all those to whom cheap soda is available, while the agriculturist who fought the battle and gained the victory, rests satisfied with the shadow, leaving the substantial benefits to be reaped by others. A few months since being on the borders of Cheshire, I asked a gentleman of large possessions in that county to what soil salt had been applied? "To none," he replied, "that I know of, except *gravel walks*, which it effectually cleanses from weeds!"

Although the mineral manures are probably those which would most naturally attract the attention of the chemist, similar doubts remain to be solved in various animal and vegetable substances, in theory or practice, deemed applicable to the fertilization of the soil. The chemical effects of bones, as a manure; how far their undoubted efficacy consists in the phosphate of lime which they contain, or in the gelatine which they yield; whether those which are green (that is, in their natural state,) or those which have undergone the processes by which their oleagenous matter has been extracted, are best suited to the object which the farmers may have in view; how far, like lime, they tend to render the extractive matter insoluble when applied with dung; and in what quantities they are best administered, are fit subjects to be thoroughly considered. The practice of ploughing in green crops, by which, in the absence of other manures, vast tracts of the sandy and heretofore sterile lands of Prussia, and other districts throughout Germany, have been brought into cultivation, admits of much discussion as to the form, period, and advantage of the application. It has been, for instance, a received opinion, that the most suitable state is when the plant is coming into flower, inasmuch as it has then derived the maximum of atmospheric support, and not began sensibly to exhaust the soil, by which the seed is mainly supported, and that in that state the greatest mass of vegetable matter is furnished to the earth:—but it has been ingeniously argued, "that they should be

cut and dried before they are buried,* for the operation of making grass into hay is the conversion of mucus into sugar, and therefore hay as a manure would be found very superior in its effects to green grass."

Now that the Kelp collectors are ruined by the substitution of other substances in many branches of manufacture, it is well worthy of chemical consideration, how far its qualities might be concentrated so as to form a manure of easy transport—a subject which, if I mistake not, has already engaged the attention of the Highland Society of Scotland.

Of the value of the "*Noir animalisé*," of the French; of the chemical discovery of M. Jauffret, by which he rapidly decomposes all vegetable substances, and which has attracted the attention of the French Institute, and received the favourable commendation of various agricultural societies, and official authorities in France, and of the many other proposed artificial manures, we as yet have no experience, and in the estimate of their worth in practical utility we might be satisfactorily guided by chemical research. Similar instances of useful investigation in reference to manures might be adduced to an extent far exceeding the limits of this letter; I have however, I trust, shewn that much of doubt remains to be cleared away, that an extensive field lies open for the exercise of science, and that much of advantage may be derived from the promulgation of right principles. The whole subject is, it will be perceived, after all embraced in these three points:—1st, The solution of that most important fact, without which the agriculturist is like the mariner without his compass, namely, what constitutes the food of plants? 2dly, In what fertilizing properties the soil is wanting? and, 3rdly, What manures are best suited to supply the deficiency?

Beyond the analysis of soils and manures there are many interesting and important branches of agricultural science, which would afford useful grounds of chemical and philosophical research. The *following* and *anti-following* controversy, which has for years been carried on with so much earnestness; whether the system be purely mechanical or whether it be enriching—whether it increase or diminish the fertility of the soil—are points still undetermined. The practice of *paring and burning* has still its advocates and opponents. Atmospheric influence, which so vitally affects the vegetable world, would profitably employ the natural philosopher in the solution of the various phenomena which occasionally present themselves, and which amaze but do not instruct the practical farmer. Why is it, for instance, that on some soils the turnips which shall have been drilled at one period of the day shall prosper, and those which have been sown at another fail? Why does a similar result exhibit itself before and immediately succeeding a thunder storm? And why is the failure of a crop frequently as clearly and regularly defined as if a line had been drawn straight across a field, in which, however, no dissimilarity of soil or culture is to be detected?

The experimentalist might be usefully engaged in determining the temperature of the earth at its surface, and to the depths accessible to the cultivator; the influences exerted by heat, light, and air, how far they penetrate into the soil, and at what point seeds cease to germinate. The effects of different culture in promoting the absorption and retention of caloric; the extent and operation of capillary attraction; points which, though hitherto much disregarded, evidently act an important part

* Hayward.

in hastening and perfecting the maturity of plants; and the study of which appears to me to be at least as interesting and important to mankind as those scientific labours which have been exercised with so much zeal, to deduct the intensity of a central fire from experiments, showing the increasing temperature of the body of the globe the deeper we bore into it.

Botany, by which I would be understood to mean, not that branch of the science which is confined to nomenclature and classification, but which treats of the structure, the economy, the properties, uses, and diseases of plants, a correct knowledge of which tends to increase their number, and improve their quality, offers to the farm not less valuable truths than it imparts to the garden. The important labours of Mr. Knight, for instance, uniting as he has done the ablest practice with the most profound science, and who has successfully cultivated the principles of the philosophy of vegetation, and thus improved the practice of horticulture, are alone sufficient to stimulate the agriculturist to extend his inquiries into the same field of interesting and useful discovery.

The diseases of plants, whether arising from a superabundance or deficiency of juice, from its impure qualities, or from external causes, though at various times treated of by practical and scientific writers, are as yet very imperfectly understood.

Mildew, rust, smut, and a variety of diseases familiar to every farmer, continue prevalent, and baffle all attempts to guard successfully against them, notwithstanding the numerous nostrums quoted as infallible.

How they are originated or propagated is still matter of doubt; yet this knowledge is essential to the cure. The preparation and choice of seed, the manures applied, their nature and quantity, and the culture of the soil, are probably all, more or less, intimately connected with their existence, and, if carefully and scientifically considered, might furnish the remedy.

The rotation of crops, and their comparative tendency to exhaust the soil on which they grow; their effects upon each other, in either furnishing or extracting the nutriment requisite for their successor; the theory of their excrementitious operation; the facilities they respectively afford to the propagation or destruction of noxious weeds; the still more important investigation as to the value of different plants and grasses as food; the most advantageous methods of cultivating them; their power to withstand seasons; the disposition of seed grown in Southern latitudes to retain its propensity to early vegetation and maturity, though sown in the North, (a subject I am inclined to think especially worthy of the attention of farmers in the northern parts of the island); the benefits derivable from change of seed under all circumstances; the rules for selecting and improving new varieties, a subject so ably treated by Col. Le Couteur; and the habits, modes of growth and peculiarities of weeds, which affect agriculture, and the most effective means of exterminating them, with many other similar subjects which it is unnecessary to enumerate, come within the legitimate range of the Botanist's inquiries, and would render his co-operation invaluable to the agriculturist.

Entomology, and that branch of *Zoology* which appertains to worms, furnishes another subject for scientific research, most interesting and important to agriculture.

"To enumerate," says Sir H. Davy, "all the destroying animals and tyrants of the vegetable

kingdom, would be to give a catalogue of the greater number of the classes in Zoology.

"Almost every species of plant is the peculiar resting place or dominion of some insect tribe; and from the locust, the caterpillar and the snail, to the minute aphid, a wonderful variety of inferior insects are nourished, and live by their ravages upon the vegetable world."

The *turnip-fly*, the *grub*, the *wireworm*, and myriads of similar enemies, not omitting the more recent and inveterate *black caterpillar* which devastate our fields; and the *maggot* and *weevil species*, which haunt our granaries; if traced by the entomologist to the parent egg, the larvæ or the chrysalis, may lead us to effectual methods of prevention or destruction; nor would it be less interesting and probably not less useful, to improve our knowledge of the natural history of those beings, which prey upon our most formidable insects and caterpillars, but which the ignorance and prejudices of mankind denounce as the perpetrators of mischief, and by wantonly destroying them, preserve millions of those destructive tribes, which an all-wise Providence destined them to destroy.

To Mr. Swainson, the agricultural world is highly indebted for his valuable discoveries on this subject; it would however appear by a recent paper of Mr. Rennie's, that much difference of opinion exists on many points connected with this study—let us hope that when the attention of the agriculturists of England is called to the importance of these researches, those gentlemen and others, who have devoted their talents to this branch of science, may be prompted to a still closer examination, and to devise the means of preserving to the farmer that portion of his produce, which has too frequently fallen a prey to the ravages of the insect tribe.

Lastly, I would refer to the benefits which would accrue to agriculture were the *mechanism* of our implements more scientifically attended to. Mechanical men possessed of talent competent to the production of the higher class of machinery, cannot be expected to draw upon their invention, unless, as in manufactures, they are stimulated to exertion by the assurance, that success in the improvement of old, or the invention of new machines, would ensure their reward, from premiums or general demand. Were such the case, it may be safely predicted that the construction of even our simplest implements, which in fact constitute the mechanism of agriculture, would not be left to the contrivance of village smiths, but would command the attention of men whose intelligence would lead them to calculate the nature and amount of the various and frequently conflicting forces to be overcome, and whose mechanical skill would give to every implement its most effective shape.

Who does not perceive the difference of labour as well as quality of work performed between a well or ill constructed plough? The form of the beam, the setting of the irons, the true point of traction, are all matters of mechanical moment, yet are for the most part left to chance. The harrow, the drill and all similar implements are to be found of every construction, and guided by no fixed rule.

It is true that of late years such men as the Ransomes of Ipswich and the Drummonds of Stirling have produced instruments and machines of very superior construction to those in general use, and it is to be hoped, that if encouragement be afforded, others will be found to apply the most approved principles to every description of agricultural machinery. It is not to be expected that a farmer should acquire much knowledge of the science of

mechanics, or that an Arkwright should rise up amongst them to augment the productions of the soil in the ratio of manufacturing encense; but if a fair prospect of recompense and employment were afforded, there is every reason to believe that agriculture would reap a proportionate benefit from the skill and inventive powers of mechanical men.

The last few years have seen gentlemen of the highest intelligence step forth from the ranks of manufacturers and mechanics, whose labours have established the truth of this observation. Gentlemen, who by the application of that mental capacity which they had hitherto exercised in other pursuits, to the principles and practice of agriculture, have at once outstripped the hitherto prescribed limits of agricultural invention, and produced results the most original and important.

I would refer, for an example, to Mr. Smith of Deanston, a gentleman well known to the manufacturing and mechanical world, as possessed of the highest class of professional invention and science, who has exhibited a very extensive knowledge of the scientific principles and practice of agriculture, and whose farm is a model of superior husbandry, displaying the admirable effects of his sub-soil plough, and the most perfect system of drainage.

I might point to other talented names already before the public, and I could readily furnish a numerous additional list of gentlemen resident in the manufacturing districts, with whom I have personally communicated, who take a deep interest in agricultural improvement, and who will hail with satisfaction the establishment of an institution, that shall confer upon agriculture those incalculable advantages which science is capable of bestowing, and which they so justly appreciate.

In thus extending their active energies, they prove themselves to be truly wise political economists. On the one hand having effected, through mechanical agency, a great increase of productive power; they now seek through the application of similar means to augment the measure of human food, which is to furnish the reward of their former efforts.

We see in their example a principle worthy of imitation. There is a legitimacy in it which must strike the most careless observer, and if such practical efforts be duly encouraged, a new era may be opened, and rural economy be made to furnish resources for a greatly extended consumption of manufactures.

It is an ancient but sage authority who has said, that "Agriculture is the nursing mother of the arts, that where the former succeeds prosperously there the arts will thrive, but where the earth is uncultivated, there the arts are destroyed."*

In the foregoing observations I have endeavoured to point out to agriculturists the field of discovery and information which I conceive lies open before them, and which still remains unexplored. I am aware that many have formed conclusive opinions upon various points to which I have alluded as matters of doubt. On some of them I certainly entertain a strong conviction; but they are still more or less in dispute; and by sifting them thoroughly, exposing error and establishing truth, though we make little addition to the science, we may contribute largely to the profitable practice of agriculture.

I would here, my lord, conclude my remarks, but that it may be expected for me, that having devoted some attention to the subject, I should state my own views as to the nature and constitution of the society, to which I propose to refer the consideration of the

matters I have introduced, and which have furnished the grounds of my address to your lordship. In so doing I beg to repeat, that I merely hazard an individual opinion, which I shall gladly yield to those whose judgment is better calculated to mark out the course which it may be desirable to pursue.

Most cordially do I coincide in your lordship's view, that no matters of a political or legislative tendency should be entertained by the society. Its objects should be purely confined to the advancement of agricultural science, and the encouragement of the most approved practice.

The Highland Society of Scotland, enrolling amongst its members the great mass of the influential and intelligent in that country, will furnish us with many examples for our imitation. It has, by its importance, long assumed a national character, and by means of its ample funds has not only offered large premiums for the exhibition of stock, at its annual meetings, (a branch of its functions which the Smithfield Club adequately fulfils in England,) but has invited mechanical inventions and prize essays on subjects important to agriculture.

I confess, however, I have felt disappointed, that the splendid annual meetings of the Highland Society, attended as they are by thousands who flock to them from distant quarters, should lose so much of the value that might attach to them, by confining their proceedings to the inspection of the cattle show yard, and the splendour of a public dinner.

Surely to such a vast assemblage of agriculturists the committee of the society might advantageously report their progress in the investigation of science, now only partially communicated, and that in an expensive form; and invite discussion and information from the practical and scientific men on those occasions so opportunely assembled together.

Be that as it may, doubtless the first step to the formation of a society in England will be to unite, in active co-operation, all, be they landlords, tenants or others, who feel an interest in advancing the prosperity of British agriculture.

When the necessary funds shall have been obtained by subscription, it will be desirable to form an establishment in London, comprising a complete Agricultural Library, a Museum for specimens of seeds, plants, &c., for models of implements, and, in all cases where it can be effected, for the implements and machines themselves, together with the means of trying them. To engage the superintendence of men eminent in the respective branches of science. To collect reports on foreign agriculture; to correspond with other societies both at home and abroad. To refer, as in the French Institute and the British Association, papers or professed discoveries of acknowledged importance to select committees to investigate and report. To amass statistical information interesting to agriculture.

To offer premiums for inventions, bearing some proportionate value to the expense to be incurred; or in certain cases defraying the cost of experiments, observations and reports; a course pursued by the British Association; and above all, to communicate to the agricultural classes throughout the kingdom, by means of cheap publications, all matters of moment, which shall have been submitted to the competent authorities of the society, and which shall have stood the test of fair, rigid, and impartial experiment.

It will moreover be matter for due consideration, how far or in what form it may be desirable to adopt the migratory principle of the Highland Society and the British Association. London should doubtless be the seat of direction of such an institution; it is

* Xenophon's Economics:

the natural focus from which all communications can best emanate; where all information can be most readily collected; it is the easiest of access to the general mass of subscribers, and the place in which the co-operation of men of science may be most readily obtained. London, however, is probably not the spot in which the greatest number of practical agriculturists can be brought together to discuss or acquire information on subjects interesting to themselves. The multifarious demands upon the time of those visiting London, operates irresistibly against a continuous attendance upon a course of lectures or discussions, in which it is so desirable there should be no interruption; and which once in the year at all events it may be presumed may afford much new matter and valuable information. If however such annual meeting were held alternately at some considerable town situated in an important agricultural district, such for instance as York, Lincoln, Norwich, Bath, Northampton, &c., not only would it be attended by a vast assemblage of gentlemen from distant parts, who had communications to impart, and from others whose desire for information would induce them to be present, but it would excite a deep interest in the proceedings amongst a large class of resident yeomanry, who would be induced to contribute their assistance, both by subscription and practical experience, and who by adopting various proposed improvements, would, as it were, convert the district, containing probably many varieties of soils, and different modes of culture, into a large experimental farm; an object so much advocated by some, but which I have always thought on the necessarily limited scale, on which alone it could be attached to an institution of this kind, would be impracticable in its operation and unsatisfactory in its results.

To achieve these desirable objects, I am persuaded it is only necessary for your lordship to make the effort, in conjunction with the Duke of Richmond and others who have expressed themselves favourable to the project, and you will confer a lasting benefit upon your country, and establish an additional claim to the deserved respect and esteem of your brother agriculturists.

I have the honour to be,

Your Lordship's faithful servant,
HENRY HANDLEY.

Culverthorpe, January, 1838.

BLOOD RED WHEAT.—An instance of the prolific nature of the wheat bearing this name has lately been produced, and is deserving of being placed on record amongst our agricultural memorandums. The produce of a piece of old cultivated land, belonging to Mr. William Cowlishaw, of Carlton in Lindrick, which barely measures one acre, has been winnowed during the last week, and the result is 66 bushels of the best, and 3 bushels of hinder-ends—being something more than 23 loads per acre! The best weighs 14 stone 2lbs., and is sold to Mr. Baxter, of the Worksop steam-mill, for 22s. 6d. per load. Many instances might be produced of the great yield of this wheat (often confounded with the golden drop) exceeding that of almost any other,—and the prejudices which existed against it in the minds of some millers on its first introduction, are gradually on the decline. The price as stated above, given by a well-known good judge, and careful buyer, is also an evidence that its quality is not inferior. We are indebted for its introduction into this neighbourhood to Mr. St. John Cartwright, of Worksop, who purchased it (being the prize wheat) at one of the agricultural meetings in Scotland about three years ago.—*Doncaster Gazette.*

NORTHAMPTONSHIRE FARMING AND GRAZING SOCIETY.

The following sweepstakes are open, to be decided at the annual meeting of the Northamptonshire Farming and Grazing Society in September next, by the judges appointed to decide on the stock shown for the prizes offered, age and quality to be taken into consideration. All the stakes to close on Aug. 31, if not otherwise expressed. Those marked thus * not confined to the county. The ages of the animals to be computed to the day of showing. Stakes to be paid to the Treasurer on or before the Saturday preceding the show, or at latest at the show at Brampton. Weights will be computed by the stone of 14lbs. instead of 8lbs. as heretofore. 100 stones of 14lbs. is equal to 175 of 8lbs.; 90 to 157½; 70 to 122½.—Any persons wishing to have their names added to any of the stakes, or to open any fresh one for any kind of stock, will please to give notice either to the President of the society, C. Hillyard, Esq., Thorpelds, or to the Treasurer or Secretary.

- * No. 1. A Sweepstakes of five sovs. each, for the best ox, under five years old, fed without restriction.—Spencer,
- * 2 A Sweepstakes of three sovs. each for the best ox or steer, which shall be qualified for the 2d class in the Christmas Smithfield Show, 1838.—Spencer.—W. F. Wratishaw.—J. Beasley
- * 3. A Sweepstakes of two sovs. for the best Hereford ox, under five years old, not under 105 stone of 14lbs., that has not had from the 20th October to the 1st August, either cake, corn, linseed or meal.—C. Hillyard.
- 4. A Sweepstakes of two sovs. each, for the best beast shown for Lord Spencer's prize (No. 1) for a fat ox.
- * 5. A Sweepstakes of two sovs. each, for the best Hereford steer, under four years, shown for do.—E. Bouverie.
- * 6. A Sweepstakes of three sovs. each, for the best pair of steers, of any breed, under four years old, age and quality to be taken into consideration, to be in the possession of the person who shows them on or before the 20th of February, and not had since that time either cake, corn, linseed, meal, or grains.—E. Bouverie.
- * 7. A Sweepstakes of two sovs., for the best pair of Hereford steers not exceeding four years old, that have been in the possession of the person who shows them from the 1st Jan., and that have not had since that time either cake, corn, linseed, meal, or grains, and that have laid out, and had nothing but grass, from the 29th May to the 1st August.—E. Bouverie.
- * 8. A Sweepstakes of two sovs., for the best Hereford steer, under four years old, that has been in the possession of the person who shows it from the 20th of Feb. and that has not had since the 1st of August, 1837, either cake, corn, linseed, meal, or grains.—E. Bouverie.
- * 9. A Sweepstakes of two sovs., for the best steer under four years old, that has been in the possession of the exhibitor on or before the 20th of February, and has not had from the

- 1st January to the 1st August, either cake, corn, linseed, meal, or grains.—Spencer.
- *10. A Sweepstakes of three sovs. each, for the best steer of any breed, under three years old, that has been laying out at grass from the 10th May, and that has not had, after six months old, cake, corn, linseed, meal, milk, or grains.—Spencer.
11. A Sweepstakes of one sov. each, for the best beast exhibited for Earl Spencer's prize for a fat cow or heifer.—J. Beasley.
- *12. A Sweepstakes of two sovs. each, for the best steer, under four years old, and 90 stone, that has not had from 1st January to the 1st of August, either cake, corn, linseed, meal, malt dust or grains, and has had nothing but grass from the 1st of June to the 1st of August.—E. Bouverie.
- *13. A Sweepstakes of three sovs., for the best Durham steer, not exceeding four years old, age and quality to be taken into consideration, to have had neither cake, corn, linseed, meal or grains, from the 1st January to the 1st August.—Spencer.
14. A Sweepstakes of three sovs. each, for the best steer, not exceeding three years and nine months old, and not weighing more than 70 stone, that has been in the possession of the person who shows it from the 1st of January, and has not had since that time cake, corn, linseed, meal, or grains, nor since the 1st of June has had anything but grass. Quality as well as weight to be taken into consideration.—Spencer.
- *15. A Sweepstakes of two sovs., for the best steer under three years old, and 50 stone, that has not had from the 1st January, either cake, corn, meal, linseed, or grains, and has laid out, and had nothing but grass, from the 29th May.—Spencer.
- *16. A Sweepstakes of two sovs., for the best Durham steer, not exceeding four years and nine months old, or 100 stone.—Spencer.
17. A Sweepstakes of one sov., for the best Durham steer, not exceeding four years old, nor exceeding 100 stone.—Spencer.
18. A Sweepstakes of one sov., for the best steer under two years old.—Spencer.
- *19. A Sweepstakes of three sovs., for the best beast shown for Sir J. H. Palmer's prize for a fat ox.—E. Bouverie.
20. A Sweepstakes of one sov., for the best steer, under three years old, and not exceeding 80 stone of 8lbs. to have had neither cake, corn, or meal, after the 1st of Jan. and to have had nothing but grass from the 20th May.—Robert Heygate—C. Hillyard.
- *21. A Sweepstakes of two sovs. for the best steer, under four years old, and not exceeding 105 stone of 8lbs. that has not had cake, corn, linseed, or meal, from the 1st of December to the 1st of August.—C. Hillyard.
- *22. A Sweepstakes of five sovs. each, for the best bull which has served 25 cows to be the property of the exhibitor. To close the 1st August.
23. A Sweepstakes of two sovs. each, for the best breeding cow, in calf; value to the butcher not to be taken into consideration. To close on the 18th of August.
- *24. A Sweepstakes of two sovs. each, for the best cow or open heifer.—W. F. Wratishaw.
- *25. A Sweepstakes of two sovs. each, for the best pair of open heifers, under two years and a half old, bred by and the property of the exhibitor, to have had neither cake, corn, linseed, meal, grains, nor milk, after eight months old. To close 18th August.
- *26. A Sweepstakes of three sovs. each, for the best pair of Scots, fed without cake, corn, linseed, or meal, and that have been in the possession of the person who shows them from the 20th of February.
27. A Sweepstakes of two sovs. each, for the best tup shown for Earl Spencer's prize, class 7. Spencer,—John Beasley.
- *28.† A Sweepstakes of two sovs., by the candidates for Earl Spencer's prize of twenty sovs. for the best shearing tup.—Spencer.—Thos. Umbers.—John Jellicoe.—J. Beasley.
- As each subscriber must pay two guineas it is not improbable that this prize will amount to forty guineas.
- *29. A Sweepstakes of five sovs. each, for the best tup of any age. Open to all England to the 18th August.
- *30. A Sweepstakes of five sovs. each, for the best shearing tup, that has never had either cake, corn, linseed, meal, or any artificial food. Open to all England to the 18th of August.
31. A Sweepstakes of one sov. each, for the best ewes exhibited for Earl Spencer's prize. To close on the 18th of August. C. Hillyard.
- *32. A Sweepstakes of one sov., for the best fat ewe. W. F. Wratishaw—T. W. Bosworth.—C. Hillyard.
33. A Sweepstakes of one sov. each, for the best heaves exhibited for Earl Spencer's prize. To close on the 18th of August.—C. Hillyard.
34. A Sweepstakes of one sov. each, for the best shearhogs shown for Earl Spencer's prize.
35. A Sweepstakes of one sov. each, for the best five wether sheep, fed on grass only.
36. A Sweepstakes of two sovs. each, for the heaviest crop of mangel wurzel, of not less than three acres, on old tillage land, in the county, after a crop of white grain. Average weight of the crop to be taken the latter end of October. To close on the 1st August.—Spencer.—C. Hillyard.—J. Beasley.
37. A Sweepstakes of two sovs. each, for the heaviest crop, of not less than five acres, of Swedish turnips, on old tillage land in the county, after a crop of white grain. The average weight of the whole crop to be ascertained about the first week in November by the Judges chosen at the Annual Meeting in September. To close on the 1st of August.—Spencer.—C. Hillyard.—J. Beasley.
38. A Sweepstakes, for tenant farmers, of one sov. each, for the best crop, from three to five acres, of Swedish turnips on old tillage land, after a crop of white grain. To close on the 1st of August.
39. A Sweepstakes of one sovereign, for the best crop of not less than one rood of carrots.—C. Hillyard.—J. Beasley.

EXTENSIVE SALE OF DURHAM STOCK.—On Saturday, the yard of the Farming Repository, Henry-street, presented a scene of unusual bustle, owing to the arrival of the first importation of this superior stock, by the spirited Secretary of the Farming

Society for the counties of Limerick, Clare, and Tipperary, having to be sold by auction on that day. The cattle were selected with evident care and superior judgment, and were arranged in a manner that would do credit to any similar establishment in England where such sales are usual. Authenticated pedigrees were given with each beast, through the medium of an admirably arranged catalogue. The stock consisted of six three-year-old in calf, 25 two-year-old in calf, and 19 yearlings, and weanlings; they were all of a beautiful shape and colour, mellow quality, and of a description that we sincerely wish we could see more frequently. The breed, quality, and blood of the stock were ably but briefly descanted on by the Auctioneer prior to the opening of the sale. He very justly remarked that, any disrepute that Durham cattle had fallen into in this country was owing to the fact of their not being "genuine thorough-breeds," but that where the proper strain was bred, great milking, superior propensity to fatten, with a size (on the same feeding) not procurable in any other breed of stock imported into Ireland, besides, that even a dash of real Durham blood in a heifer made saleable at any fair in the country at from 2*l.* to 6*l.* higher price than the common cow. The principal buyers were John Croker, Esq., Ballynagarde; Edward Greene, Esq., Greenmount; Frs. Healy, Esq., county Clare; Mr. John Christy, Adare; John W. O'Grady, Esq., Fort Etna; Andrew James Watson, Esq., Castle Connell; Robert Maxwell, Esq., Islandmore; Henry Croker, Esq.; William Cannon, Esq., Cahercon; Rev. Mr. Lloyd; Mr. Benn; — Bennett, Esq.; John Galway, Esq., Myshall, county Cork; and George Tutmill, Esq., Faha. The prices of the cows averaged 23*l.* 10*s.*, the two-year-olds 12*l.*, and the yearlings 9*l.* 12*s.* 6*d.* Such sales will do more to improve the breed of cattle in this country than fortunes expended by noblemen or gentlemen in partial importations. Mr. Marshall, the secretary to the society and proprietor of the Farming Repository, was the auctioneer.—*Limerick Standard.*

ON AGRICULTURAL IMPROVEMENT.

The following correspondence is extracted from the columns of a contemporary :—

SIR,—Although we consider the science of agriculture as yet in its infancy, we must admit that we are on the eve of the greatest improvements that ever took place in that science. These improvements we must chiefly attribute to the superior education of the agriculturist, and to the instrumentality of agricultural societies. In the old school of farming, and even at the present day, when we hear so much about the "march of intellect," it is contended for by some that little education is necessary for the practical agriculturist beyond the mere routine of the village school; but it is a well authenticated fact that "knowledge is power," and why, I would ask, is this power only to be denied to the farmer by limited education? In opposition to some practical farmers we contend that without a knowledge of chemical science we cannot apply the proper manure to the various species of soil, so as to increase the quantity as well as to improve the quality of its productions. Without a knowledge of chemistry, a farmer who applies a peculiar species of manure which has been found beneficial to his ground, perhaps only follows the practice of his neighbours, and while he sneers at the theorist who would direct his attention to the primary principles of his art, both he and those whom he follows were originally indebted for that practice to scientific men. But the sun of science has gradually enlightened our horizon, and dispelled the clouds of native ignorance, giving vigour and energy to the science of agriculture, in

consequence whereof that which was once deemed "unfit for ears polite," has now become not only interesting to the farmer, but also to many noble and learned men.

We return our most sincere thanks to a Hampshire agriculturist for the facts he states relative to the system of alternate cropping, and can assure him that in our immediate neighbourhood, where the system is only in partial operation, its good effects have been abundantly evident.

JUVENIS AGRICOLA.

East Riding, Yorkshire.

TO THE EDITOR.

SIR,—I feel anxious to address to you a few remarks on the correspondence lately begun in your paper, between the "Hampshire Agriculturist," and the "Buckinghamshire Farmer." The subject is of no small importance in a national point of view, and therefore, if erroneous principles and details relating to it are put forth and not contradicted, instead of doing good, the very contrary must be the result.

Your Hampshire friend opens the subject by a very sensible and well-timed letter, that is, so far as principles are involved. That, at any rate, is my impression of it, and I ought to state that my remarks will be confined to the principal subject under discussion, viz., the best, and of course most profitable system of farming at the present time. I however differ with the Hampshire agriculturist, who, by the way, is evidently a proprietor with the means of farming well at his disposal, in one or two of his details. In the latter part of his letter he says that a farmer should expend at least 25*s.* an acre annually in labour, grow at least one green crop for every crop of corn, interpose a fallow crop at least once in four years, and lay out a handsome sum annually in the purchase of artificial food. Now, if he has been farming upon the system he propounds, (which I take for granted), and will refer back to his last year's, or any other year's, payments for labour (I of course include steam work), I doubt not but he will find that 25*s.* an acre is far short of the reality. I will say nothing against growing a green crop for every crop of corn, and with regard to the interposition of a fallow crop at least once in every four years, that is very good, *provided it can always be done to advantage.* But I must confess that I think it a doubtful question upon some strong clay lands, and as your correspondent has not named any soil in particular, I must take his remarks as applying to soils in general. And then, respecting the outlay of a handsome sum annually in artificial food, I must question the propriety or advantage of it, inasmuch as the large proportion of green crop, consisting of course of a good proportion of Swede turnips, mangel wurzel, and other nutritious roots, will cause so large a proportion of artificial food not to be required, except in case of a failure or partial failure in the green crop.

The Buckinghamshire farmer begins his epistle by giving us his opinion *why* grain is so cheap in this country. Upon that subject I will not enter, as I wish to confine my remarks to the best mode of farming, under the existing circumstances of such low prices. After telling us that the wheat crop is the only crop that has this year paid the producer, the Bucks farmer goes on to state his opinion of the profit in feeding stock for the Christmas market just past, and asserts that not only has there been no profit, but that the meat consumed by the stock has been thrown away also. Now, as I take it, one practical deduction is worth a score assertions without any

proof; and I can assure the Bucks farmer, that however depressed the price of fat stock was about Christmas, I have much less reason to be satisfied with the price that last year's crop of grain is now worth, than with the profit on my fat stock sold just before Christmas.

The Buckinghamshire man seems to sneer when the Hampshire man says he could introduce him to farmers who have doubled their capital within the last 14 years by an adherence to that system which he (the Bucks farmer) pronounces impossible. There cannot, I think, be a better argument advanced in favour of the system than this; for it must be admitted, that during the last 14 years (or at least during part of that time) the British farmer has had to struggle with more difficulties than, perhaps, ever came in his way before. And, supposing we take a farmer's capital, 14 years back, at 3,000*l.*, and allow him to have lived and brought up his family respectably—I say that that man has not done amiss who, at the end of the term, and under such untoward circumstances, finds his capital doubled; and I think that the system he follows is not to be condemned as visionary and impracticable.

I will only remark on one other passage in the Bucks farmer's letter and then conclude. He introduces the matter thus:—"Your Hampshire correspondent is rather magniloquent in his condemnation of the slovenly or niggardly farmer, and urges all men to employ the poor at this season of the year in draining their land. There is not one farm in a hundred where such an operation is required." Not knowing anything of the soil in Buckinghamshire I cannot deny his assertion as far as it regards that county, but taking the district in which I reside, and more that I could mention, if necessary, instead of there being not one farm in a hundred that requires any draining, I beg to tell the Bucks farmer that there is not one in a hundred but that *does* require draining, and in the majority of cases to a great extent.—I am, sir, your constant reader and well-wisher,

A SOUTH SHROPSHIRE FARMER.

Near Tenbury, Feb. 7.

TO THE EDITOR.

SIR,—Glad that my former observations have interested your readers, I am now desirous, with your permission, of further prosecuting my original object, which was to encourage the employment of the poor by the occupiers of land. To this end I wish to explain somewhat more fully the means by which I am enabled to employ nearly half as many more men as are usually employed on the same number of acres, not only, as I think, without loss, but with a fair return of profit.

It may be proper to premise that my farm consists of about 200 acres; comprising 30 of wood, 42 of pasture, the rest arable. Of the arable 85 acres are of good mixed soil, well adapted to turnips and barley, but not considered equal in value to the best wheat land; the remainder consists partly of a hungry gravel, partly of clay, of very inferior quality. It is cultivated on the Norfolk, or four-course system.

1. I diligently collect litter of every kind, seaweed, furze, fern, leaves of trees, &c., for bedding my yards, in addition to the straw grown on the land. In the last 12 months I have brought in about 50 waggon loads of this description; each waggon load gives employment to about three men for a day, the total is therefore 150 days.

2. This increase of litter would avail little or nothing if I did not keep an extra number of live stock, for I observe that many farmers do not even make their straw into good muck. I therefore fat about 40 hogs and 4 or 5 head of horned cattle every winter; enough, in short, to consume half my Swedish turnips, which are drawn and carried into the yards for this purpose. The drawing, tapping, and carting, together with the time occupied in looking after the stock, may be estimated at one man's employment during the winter months, equal to 150 days.

3. The removal of one-half the turnips would injure the succeeding barley crop, if I did not lay on, at the time of sowing the turnips, an extra quantity of manure, say 25 single horse cart-loads per acre, about 10 loads more than the usual allowance. This I am enabled to do, partly by the great quantity of litter in my yards, partly by placing a bottom of earth or chalk under every dung heap, and a thin covering of the same materials over the top. The practice of carting all my dung twice, first from the yards to bottoms prepared in the fields, and then on the land when wanted for use, of course employs many hands, as well as the turning their composts, and mixing the materials together. I believe I do not over-rate the number of cart loads filled annually on my farm at 2,400, whereas on the same number of acres, a farmer who moved his dung only once, carrying it it immediately from the yard, and at the rate of 10 loads per acre for turnips, the same for wheat, would fill only 600 cart loads annually. The extra 1,800 loads may give about 112 days employment, and the turning of the compost about 20 more; making together 132 days.

4. I have introduced this year the Norfolk practice of dibbling wheat. This occupies two men and six children for 30 days, at the rate of half an acre per man per day. Computing the six children equal to one man, the dibbling gives extra employment of 90 days. The expense is paid in the saving of seed, to say nothing of the increased produce, which is estimated by the best Norfolk farmers at a sack per acre.

5. Extra weeding, throwing ditches, draining, &c., may occupy about 80 days.

Let us now recapitulate,

Collecting litter	150 days
Feeding stock in yards	150
Carting earth and dung	132
Dibbling wheat	90
Extra weeding, draining, &c. .	80
Total	602

At 300 working days in the year this is equal to two labourers extra, winter and summer, employed on a farm containing only about 120 acres of arable land.

It is not easy to estimate with precision the increased amount of produce which a farmer may expect to obtain in consequence of such an increased outlay in labour; the less so as that increased produce does not make itself felt the first, second or third year, to the full extent; indeed, I have heard an intelligent farmer say, that he has observed a progressive improvement in his land during no less than twenty years, from persisting in a system of high cultivation. I quoted in a former letter the estimate of Von Thaer, which however, was so disfigured in the printing (owing I fear, to the badness of my hand writing) as to be almost unintelligible; I beg leave therefore, to repeat the statement:

ON A FARM OF 913 ACRES OF GOOD BARLEY LAND.

	Under the old system, two crops and a fallow.	Under the im- proved or alter- nate system.
	£.	£.
Produce in cattle	210	1,249
Produce in grain	894	2,030
Gross produce	1,104	3,279
Expenses of cultivation	537	1,051
Net produce	567	2,228

The last line comprises rent, profit, interest on capital, tithes and taxes of any description, the object being simply to show the *comparative* results of the two systems of cultivation. The system is not founded on speculative views, but on extensive and accurate observation during a long series of years by a man well acquainted with the practical business of agriculture. Indeed, I may observe in passing that there is no work in the English language to be compared with Von Thaer's, so far as my knowledge extends. I am not surprised at the low estimation of works on agriculture among practical farmers. Instead of containing, as they ought to do, a digest of all that is necessary to be known by a single competent hand, such works consist, for the most part, of loose collections of suggestions, speculations, experiments, and observations; correct and incorrect, authenticated and unauthenticated; thrown together apparently almost at random, without order or discrimination.

It will be seen, on comparing Von Thaer's numbers, that his estimate of the expenses and produce on the two systems of cultivation respectively is in round numbers as follows:—On the improved system the expense of cultivation is *double*; the gross produce is *triple*; the net produce is *quadruple*.

This statement, however, being expressed in so general and abstract a form, and resting as it does on the authority of an unknown author, is not likely I fear, to weigh much with the majority of farmers. Let me then endeavour to bring the question home to them by a statement of a different kind. I suppose it will hardly be disputed that by means of the system of high cultivation which I have described, a cultivator may expect to get per acre at least one sack of wheat, one of barley, a quarter of a ton of clover, hay, and three tons of turnips additional. Let us compute the value of these items.

4 bushels of wheat at 56s.	£1 8 0	
4 bushels of barley at 30s.	0 15 0	
$\frac{3}{4}$ ton of hay at 3 <i>l</i> .	0 15 0	
3 tons of turnips at 5s.	0 15 0	
	4 | £3 13 0	
Average per acre	£0 18 3	
This on 120 acres amounts to		£109 10 0
The labour of the extra hands through the piece at 11s. per week amounts to	£57 4 0	
I charge nothing for horse labour, since the carting of dung, litter, &c. is performed at times when the team would otherwise be standing still. But as there is some additional wear and tear of carts and waggons, let us estimate this at	10 0 0	67 4 0
Extra profit arising to the occupier		32 6 0
The result of this computation, if correct, ought		

surely to encourage every farmer to be liberal in his expenditure in the article of labour, and if not correct I hope some one of your many correspondents will point out where I am wrong. The actual produce of the present year, in my own case, is as follows:—my wheat, so far as yet threshed, averages from nine to twelve sacks per acre; the last is the produce of a new variety, which proves very prolific. My barley has yielded on an average twelve sacks per acre. I have, however, one field of barley not yet threshed from which I do not expect to get more than nine sacks per acre, the soil being a poor gravel. The general character of the land I have already described.

I hope these statements and calculations will call forth the observations of some of your able correspondents, in order that my conclusions may be confirmed, if well founded, or corrected, if erroneous; and should they prove sound, as I am willing to believe, I trust they will contribute to promote the more general employment of the poor.

A HAMPSHIRE AGRICULTURIST.

Feb. 8, 1838.

PROTECTION OF WALL TREES AND OTHERS FROM FROST.

SIR,—Seeing in the *Gardener's Gazette*, a mode for protecting trees from the frost, reminds me that I have long wished to give publicity to a very cheap and good method, which has never failed, and by which I have always insured a good crop. Should you think proper, I will forward you a specimen. It is what a boy may construct easily, and make enough in two hours to cover 40 feet of wall. Take the longest and straightest straw you can find, or what is called reed; tie at one end, the ears downward, by a knitting knot, five or six straws, according to the thickness you wish to cover; those five or six straws tie together, at about two inches apart, with the ears as before stated; apply these to the wall, and they will afford sufficient protection, before and after pruning; run these straws along the top of your wall by twisting the twine on a nail to keep it stedfast; if one length is not sufficient, run another underneath the first, and, to check the force of the winds, run a string over it, by twisting the same as before, from place to place, to keep it steady.

As soon as your trees are pruned, cover them immediately, as before stated, and let them remain so till your fruit is well set and stoned, if they are stone fruit. There is always a current of air, which does not prevent the fruit from setting, but prevents the wet and frost from injuring the stamina. When you wish to uncover, take the straw upright, and lift it gently, by which means you will not break either the fruit or leaves that may have grown between the straw.

If you think this worth notice, and that it would be beneficial to the public, have the goodness to insert it. As for myself, I adopt no other covering; nor can I find a cheaper way, particularly in a country where straw abounds. The best straw is preferable, on account of length, and I generally comb it to extract all dead leaves and weeds. I have the honour to be, Sir, your most humble servant,

R. LANCELIER.

P. S. A covering of this description, carefully kept dry, has lasted me three years, and more.

PROCESS AND PROPERTIES OF THE
ROOTS OF PLANTS.

(FROM DR. ROGET'S BRIDGEWATER TREATISE.)

It had long been conjectured by De Candolle, that the superfluous or noxious matters contained in the returning sap are excreted or thrown out by the roots. It is evident that if such a process takes place, it will readily explain why plants render the soil where they have long been cultivated, less suitable to their continuance in a vigorous condition, than the soil in the same spot was originally; and also why plants of a different species are frequently found to flourish remarkably well in the same situation where this apparent deterioration of the soil had taken place. The truth of this sagacious conjecture has been established in a very satisfactory manner by the recent experiments of M. Macaire. The roots of the *Chondrilla muralis* were carefully cleaned, and immersed in filtered rain water; the water was changed every two days, and the plant continued to flourish, and put forth its blossoms; at the end of eight days the water had acquired a yellow tinge, and indicated, both by the smell and taste, the presence of a bitter narcotic substance, analogous to that of opium; a result which was farther confirmed by the application of chemical tests, and by the reddish brown residuum obtained from the water by evaporation. M. Macaire ascertained that neither the roots nor the stems of the same plants, when completely detached, and immersed in water, could produce this effect, which he therefore concludes is the result of an exudation from the roots, continually going on while the plant is in a state of healthy vegetation. By comparative experiments on the quantity of matter thus excreted by the roots of the French bean (*Phaseolus vulgaris*) during the night and the day, he found it to be much more considerable at night; an effect which it is natural to ascribe to the interruption in the action of the leaves when they are deprived of light, and when the corresponding absorption by the roots is also suspended. This was confirmed by the result of some experiments he made on the same plants, by placing them, during day time, in the dark, under which circumstances the excretion from the roots was found to be immediately much augmented; but even when exposed to the light, there is always some exudation, though in small quantity, going on from the roots. That plants are able to free themselves, by means of this excretory process from noxious materials, which they may happen to have imbibed through the roots, was also proved by another set of experiments on the *Mercurialis annua*, the *Senecio vulgaris* and *Brassica campestris*, or common cabbage. The roots of each specimen, after being thoroughly washed and cleaned, were separated into two bunches, one of which was put into a diluted solution of acetate of lead, and the other into pure water, contained in a separate vessel. After some days, during which the plants continued to vegetate tolerably well, the water in the latter vessel being examined, was found to contain a very perceptible quantity of the acetate of lead. The experiment was varied by first allowing the plant to remain with its roots immersed in a similar solution, and then removing it after careful washing, in order to free the roots from any portion of the salt that might have adhered to their surface, into a vessel with rain water; after two days, distinct traces of the acetate of lead were afforded by the water. Similar experiments were made with lime-water, and with a solution of common salt, instead of the acetate of lime,

and were attended with the like results. De Candolle has ascertained, that certain maritime plants which yielded soda, and which flourish in situations very distant from the coast, provided they occasionally receive breezes from the sea, communicate a saline impregnation to the soil in their immediate vicinity, derived from the salt which they doubtless had imbibed by the leaves. Although the materials were thus excreted by the roots are noxious to the plant which rejects them and would consequently be injurious to other individuals of the same species, it does not therefore follow that they are incapable of supplying salutary nourishment to other kinds of plants; thus it has been observed that the *Salicaria* flourishes particularly in the vicinity of the willow, and the *Orobanchæ*, or broom-rape, in that of hemp. This fact has also been established experimentally by M. Macaire, who found that the water in which certain plants had been kept was noxious to other specimens of the same species, while, on the other hand, it produced a more luxuriant vegetation in plants of a different kind. The fact is of great importance in the theory of agriculture, since it perfectly explains the advantage derived from a continued rotation of different crops in the same field, in increasing the productiveness of the soil. It also gives a satisfactory explanation of the curious phenomenon of *fairy rings* as they are called, that is of circles of dark green grass, occurring in old pastures; these Dr. Wollaston has traced to the growth of successive generations of certain *fungi*, or mushrooms, spreading from a central point. The soil which has once contributed to the support of these *fungi*, becomes exhausted or deteriorated with respect to future crops of the same species, and the plants therefore cease to be produced on those spots; the second year's crop consequently appears in the space of a small ring, surrounding the original centre of vegetation; and in every succeeding year, the deficiency of nutriment on one side necessarily causes the new roots to extend themselves solely in the opposite direction, and occasions the circle of *fungi* to proceed by annual enlargement from the centre outwards. An appearance of luxuriance of the grass follows as a natural consequence; for the soil of an interior circle will always be enriched and fertilised with respect to the culture of grass, by the decayed roots of *fungi* of the preceding year's growth. It often happens, indeed, during the growth of the *fungi*, that they completely absorb all nutriment from the soil beneath, that the herbage is for a time totally destroyed, giving rise to the appearance of a ring bare of grass, surrounding the dark ring; but after the *fungi* have ceased to appear, the soil where they had grown becomes darker, and the grass soon vegetates again with peculiar vigour. When two adjacent circles meet, and interfere with each other's progress, they not only do not cross each other, but both circles are invariably obliterated between the points of contact; for the exhaustion occasioned by each obstructs the progress of the other, and both are starved.

BONE DUST.—The powerful effects of bone dust as a manure have not only excited the attention but the astonishment of the agriculturist; and many theories have been offered to explain what the active principle in the bone is, which produces such luxuriant vegetation, by the application of so small a quantity of matter. An account of the way of its operation was offered in a former *Journal*; but a Banff correspondent considers that he also is entitled

to offer a theory, and we have no hesitation in laying an excerpt of it before our readers, in the hope that it may prove both useful and satisfactory.—“Bones are a phosphate of lime, that is, they are composed chiefly of lime and phosphoric acid. When crushed and deposited in the earth, by the action of heat and moisture the bones are soon reduced to a state of decomposition, and the original elements of which they are composed are thereby set at liberty to form new combinations in the great circle of revolving nature. By this means, the phosphoric acid is set at liberty in the form of gas, and the lime is left in its caustic state, deprived of its neutralizing acid; these two substances are then left to produce the powerful vegetation, which we see to follow their application as a manure in their new state; and as we know but few principles in nature more powerfully active than phosphorus, in all its states of existence, we have formed the idea that phosphorus, in conjunction with the lime, perhaps in the state of phosphoric acid gas, is the chief cause of the rapid and luxuriant vegetation produced by the application of bruised bones as a manure. The phosphorus of our shops is so easily ignited, that the least friction sets it on fire; nay, if exposed to the air, it burns spontaneously by a slow combustion, and therefore can only be preserved from combustion by being immersed in a phial of water; hence I conclude that crushed bones evolve a considerable quantity of gas and heat during the process of decomposition in the earth; but as I am not chemist enough to go into the subject farther, I must refer to some good chemist (if my theory be correct,) to fill up the detail. Meantime, as I have attempted, in a field of my own, to try some experiments with the bone dust, I shall with all deference state the results. 1st, I find that old rotten bones, and dry bones, crushed properly, work sooner, and are more readily efficient as a manure, than fresh or green bones, requiring a longer space of time to decompose and part with their phosphoric principle than old bones, already partly in a state of decomposition. 2nd, I find that bone dust acts most readily and powerfully, if, the night previous to being put into the earth, it be formed into a heap, and thoroughly wet, and allowed to lie until it is beginning to become warm. It then ought to be put (in its wet state) into the ground, when a powerful and luxuriant vegetation immediately follows. In a dry soil it remains long before decomposition, and also in very wet ground. This may account to a certain extent for what by some has been considered a partial failure of its usual effects.”—*Aberdeen Journal*.

ON AGRICULTURAL IMPROVEMENT.

TO THE EDITOR OF THE MARK LANE EXPRESS.

Witnessham.

SIR,—Being of opinion that some legislative enactments, and the want of others, have been the cause of ruin and retarded improvement, and are a bar to prosperity, I hope the *present Central Society* will not be dissolved; and I believe such to be the general wish of the *tenant farmers* in this county. The reason why a greater number have not become members of the Central Society is from the expence of attendance, and from the currency and poor law questions leading to disunion; and the reason why the tenant farmers do not more generally become members of provincial societies is, from the late hour

at which the business generally commences, the distance a portion of them have to go, and from the length of time occurring from one meeting till another; and there can be no means of keeping up an interest and inducing attendance but by establishing *local monthly meetings*, at an hour of the day most convenient to those who become members. There can be no want of matter to discuss at these meetings; every season gives rise to new questions on the progress or failure of crops, and of new species or varieties introduced, systems pursued, newly invented or improved implements and machines, effect of artificial manures, &c.

We cannot go far from home, meet with any one from a distance, or read reports from other districts, but we find something to claim our attention. It is truly said that agriculture is “but in its infancy,” and, we may add, will continue to be so whilst *terra firma* turns on its axis. But if, as some say, this is visionary, it is evident that a better system of cultivation is practised in some districts than in others; some species of artificial manure more used; the cause and remedy for different pests which injure our crops; the best mode of rearing and feeding stock, &c.,—none of these things are generally known over the country, but one in one district and another in another district. For instance, smut in wheat prevails over every corn-growing country occasionally, and I believe generally (more or less) in some districts, whilst in others it is *never grown*; and as the infected seed may be made to produce a clean crop at a cost of sixpence per acre, it is extraordinary that any smutty wheat is grown. But such questions will never be set at rest unless agricultural societies be generally and systematically established. The mode adopted by the Doncaster Society is the best that has come within my knowledge, viz., sending a list of questions on any subject to a hundred or two of persons, occupying different soils, in different districts.

An American miller, who came over with a cargo of bone-dust, told me that in *that country plaster* was more in demand than bone-dust; and inquiring particulars of an American farmer, who came yesterday to the Asbocking Farmers' Club, he informed me that they *plastered* their land for grass and Indian corn—used eight or ten bushels per acre—and that it produced a spontaneous growth of white and a species of red clover; that if two rows of Indian corn are plastered, and two left unplastered, over a field, that the difference in growth and produce is so great that the Americans say that the plastered rows *rob* the other—that the rows not plastered would have been better if the other had not been plastered. This seems not to accord with Grissenthwait's “Theory of Agriculture,” in respect to Gypsum; nor with Sir Walter Scott, who states that “Gypsum is not taken up by *corn crops*, or *crops of peas and beans*; and that its agency in attracting moisture from the air must be comparatively insignificant.” Gypsum is 18s. per ton at the mills. They feed their hogs and grazing beasts with apples as they fall from the trees, and some give 3d. per bushel for apples to feed with. Beef, at 2½d. per lb.—get them in good flesh, but make them up with Indian corn and hay. Give their cattle salt, and sheep both salt and tar in covered troughs—seldom loose any. Some farmers give their horses from half-a-pint to a pint of wood-ashes in their feed once a week; and all *ash* their horses and colts when they have worms or bots, or are hide-bound and unthrifty, and it never fails to set them right and improve their condition.

I remain your humble servant,
CHARLES POPPY.

RATING TITHE COMMUTATION RENT CHARGE.

TO THE EDITOR OF THE GLOBE.

SIR,—Seeing in your journal of the 7th inst. an extract from a letter of the tithe commissioners, recommending, as I conceive, an erroneous method of assessing commutation rent-charges to the poor-rate, I have deemed it my duty to trouble you with this, and to request the indulgence of an early insertion for it.

It is given as the opinion of the commissioners that “the assessment for the tithe ought not to be on the full rent-charge, but on the net annual value of such rent-charge after deductions made for parochial rates:” the intention of which I apprehend to be, that whatever rate in the pound is assessed on the rent of the farmer, for example, after certain deductions made, the same is to be assessed on the rent-charge reduced by similar deductions. That is, supposing the farmer’s full rent to be 100*l.* the deductions as provided for in the late act ten pounds, making ninety pounds the net sum to be assessed. Supposing, again, five hundred pounds to be the gross rent-charge; seventy pounds the deductions to be made, and consequently 430*l.* the net rent charged to be assessed—then, whatever rate is laid on this 90*l.* rental, the same shall also be laid on the 430*l.* net rent-charge. This, I say, I take to be the intention of the Commissioners; and if so, I have no hesitation in affirming that their opinion is erroneous, and, if generally adopted, will be followed by unjust and oppressive results.

My reasons are these. It is obvious that all property—no matter to whom it may belong—ought to be rated alike, that is equally, to the poor rate. Any difference made on principle in the rate imposed in any parish, on the different occupiers, or it may be on the land-owner and tithe-owner, would be manifestly unjust, and deservedly proscribed as such. And in the case just proposed this would clearly be the fact. The farmer, for example, is assessed on 90*l.* But this is not the whole net produce of his farm. One whole rental, 100*l.* must have been paid to the landlord, another at least reserved to himself for the use and support of his family; and this exclusive of outgoings for cultivation, &c. The net produce of such farm would be therefore 200*l.* upon 90*l.* of which only has the assessment been made. In this case, consequently, 100*l.* of the property so made has been exempted from the impost of poor rate; and justice requires that a similar exemption be made to every other ratepayer. But if the tithe owner is assessed on 430*l.* as supposed above, it is evident that he is unjustly dealt with: equity requiring that his net receipts be diminished in exactly the same proportion—i. e. as 200*l.* is to 90*l.* so will 430*l.* be to 193*l.* 10*s.* the precise sum on which he ought to be assessed. This, I affirm, the equity of the case requires; and on these principles the only legal decision, I believe, ever made on the subject was made, viz.—“*Rex v. Jodrell*,” as given in Barnwell and Cresswell’s Reports. And, once more, for this sort of equal-handed justice the last paragraph of the preamble to the new parochial assessment act has manifestly provided. It is very true, the *exact* amount of profit made in such cases as that adduced above can never be ascertained; but this will involve a question of degree only; while the opinion referred to goes to the extent of entirely merging a principle, which, as it appears to me, it is the duty of tithe commissioners to protect. I cannot but persuade myself,

therefore, that this opinion—if I have rightly understood it—has been inadvertently advanced, and will, upon mature consideration, be corrected.—I have, Sir, the honour to be,

A TITHEOWNER.

SALE OF STOCK AT CARLETON HALL.—This sale took place on Tuesday week, and as might have been expected, drew together an immense concourse of people, some from a considerable distance. The stock generally, we believe, did not bring so much as was calculated upon, and judging from the great number of purchases made by Mr. Wetherell, we should be inclined to say not so much as they were worth. We annex the prices of a few of the lots which brought the most money:—

COWS.

Lot 4. Fairy, light roan, 7 years old, Mr. Wetherell—21*l.*

Lot 7. Cowslip, light roan, 5 years old, Mr. Wetherell—40*l.*

Lot 10. Glass Slipper, light roan, 4 yrs., H. Gait-skill, Esq.—35*l.*

Lot 11. Ruby Gilliver, 4 years, Mr. Wetherell—15*l.*

Lot 14. Emily, 3 years, dark red, Mr. Benn, Lother—27*l.*

†TWO-YEAR-OLD HEIFERS.

Lot 2. Dairy Maid, roan, by Sillery, Mr. Wetherell—15*l.*

Lot 3. Victoria, white, by Sillery, Gilfred Hartley, Esq.—18*l.*

Lot 4. White Rose, white, by a bull bred by Milman Hartley, Esq., Rose Hill, Mr. Town—15*l.*

YEARLING HEIFERS.

Lot 5. Selina, dark roan, by Sillery, Mr. Wetherell—12*l.*

Lot 6. Sarah, roan, by Sillery, Mr. Wetherell—16*g.*

Lot 7. Magdaline, dark red, by Sillery, R. Jefferson, Esq.—14*g.*

Lot 8. Mary, roan and white, by Sillery, T. Hartley, Esq.—11*g.*

Lot 9. Perfection, roan and white, by Sillery, R. Jefferson, Esq.—11*g.*

HEIFER CALVES.

Lot 2. Maltida, dark roan, by Sillery, Mr. Wetherell—10*g.*

Lot 3. Norah, light roan, by Sillery, Mr. Wetherell—12*g.*

Lot 4. Mary Ann, dark roan, by Sillery, Mr. Wetherell—9*g.*

Lot 8. Columbine, by Sillery, J. Nicholson, Esq., Netherstainten—7*l.* 17*s.* 6*d.*

BULLS.

Lot 1. Sillery, roan, 5 years, by Champaign, Mr. James—18*g.*

Lot 2. Burgundy, yearling roan, by Sillery, Mr. Jackson—11*l.*

Lot 3. Muncaster, yearling, dark red, by Sillery, Mr. Pattison—14*l.* 3*s.* 6*d.*

BULL CALVES.

Lot 2. St. Patrick, dark red, by Sillery, Mr. Ormandy—13*l.* 2*s.* 6*d.*

Lot 3. Wellington, roan, by Sillery, Mr. Turner—8*l.* 18*s.* 6*d.*

Lot 4. Snowball, white, by Sillery, Mr. Turner—8*l.* 18*s.*

HORSES.

Lot 1. Bay colt, rising 4, by Alpha, Mr. Clements—30*l.* 9*s.*

Lot 2. Bay colt rising 3, by Alpha, Mr. Magee—17*l.* 17*s.*

Lot 3. Bay filly, rising 4, by Alpha, Capt. Irwin—26*l.* 5*s.*

The cows realised 339*l.* 3*s.*; the two-year-old heifers 63*l.*; the yearling heifers, 94*l.* 19*s.*; heifer calves, 64*l.* 11*s.* 6*d.*; bulls, 44*l.* 2*s.*; bull calves, 47*l.* 15*s.* 6*d.*; steers, 16*l.* 10*s.*; horses, 103*l.* 11*s.*; corn, 137*l.* 10*s.*; giving a total of 911*l.* 2*s.*

ON THE MANAGEMENT OF GREEN CROPS IN DRILL HUSBANDRY.

I beg, without preface, to submit to you my practical experience, for some years, on this important subject. My first step is, to give the ground intended for green crops, a good deep ploughing, in the month of September, or October, ploughing it into narrow six sod ridges, having the furrows well cleaned up to keep the ridges perfectly dry during the winter; and, if it be necessary, I have water cuts made in any part of the land, upon which there may be danger of the water lying. I let the land remain in this state until the month or March. I then throw down one sod from each side of the ridges, and have these ridges cross-harrowed with a weighty harrow. I then cross-plough as deep as the land will allow. Some lands will not require to be ploughed with more than two horses, while other lands that have a strong good subsoil will require three or four. Having cross-ploughed it into narrow ridges, run a harrow on those ridges, and plough down a sod from each side of the ridges, as before described, then harrow across these ridges, so as to bring the ground to a level. If there be any lumps on the land, it is rolled; and, should it be so rough as that one rolling will not leave it sufficiently fine, I harrow it after the roller, and roll it a second time. It cannot be made too fine for green crops, particularly for turnips or mangel. Potatoes will not require the ground to be broken so fine. On opening the drills for potatoes, I open them two feet six inches from centre to centre, as deep as the plough can make them. When open, I lay down the manure in rows, ten drills from each other; I give this distance in order that there be as few drills tramped with the horses or carts as can be avoided. When the manure is all carted out, I draw down a small portion of the mould into the bottom of the drills about two inches deep, at the same time breaking it fine. I then drop the seed, and spread the manure over the seed, and close them in with the plough, so deep as to have the space between each drill three or four inches lower than the seed, in order to prevent an excess of moisture from lying about the latter. When covered, I let them remain in the rough, without rolling, until I find the seed nearly coming to the top; I then get them harrowed with a light harrow, made for this purpose, drawn with one horse: this gives a complete check to the growth of weeds—which are just commencing vegetation—and leaves the ground loose and open to draw in any rain, that may fall, or even the night dew. I find, by experience, that rolling drills after ploughing puts the seed of such weeds, as the land is subject to, in a way of growing immediately, and when rain falls at times when most wished for, a great quantity must fall before it gets into drills that are so rolled. The opportunity if possible should be embraced, of harrowing the drills after a fall of rain. When the potatoes are over ground, the cutting plough should be passed deeply between each drill, so as to leave a sufficient supply of mould for landing. They should have two landings during the season; the first should not be closed up to the stalks, but raised so as to leave the landing a little over the line of the centre of the drill. When the stalks rise sufficiently high to give them the second landing the mould should be closed in to the stalks. Last year I planted in this way, for Arthur Guinness, Esq., Beaumont, county Dublin, and had a produce of 160 barrels per acre of pink-eyed potatoes, or in other words, twenty tons. This produce I know is rare on good market potatoes, but if handled, as I

state with a sufficient supply of manure, I have no doubt products equally great will be often realized. For turnips and mangel, I opened the drills lightly, 1 foot 10 inches from centre to centre, dropping the manure, as described for the potatoes 10 between each row, to avoid tramping, as much as possible: when the manure is spread, the drills should be closed in so as not to have more than three inches of mould over the manure. It should then be rolled with a light roller—a light roller made for the purpose—not depending upon that intended for rolling meadows or laid down land. When sowing the mangel, I got three short dibbles, not more than one inch deep, attached to a piece of board, leaving nine inches between each dibble with a handle in the form of a crutch, and kept a boy or a girl making the holes, and the same number of boys dropping the seed after the dibbles. This process can be effected very expeditiously, and the entire crop planted at the regular distance of nine inches from plant to plant. I put the seed to steep in a large flower-pot mixed with some sand or sifted mould: this I place into a hot-bed, giving a good supply of water. After remaining here for twenty-four hours I have it taken up, and the mould sifted off, or the seed picked out. By this means I have the seed over ground in five days, and perfectly free from any failures. When the plants grow up strong, I get the ground between the drills ploughed, and scuffed with the drill harrow; then get the drills hoed and thinned, leaving the plants a distance of nine inches from each other. The mould should be drawn away from the plants with the hoe, so as to have as little as possible of it on the ground. If there be any to be transplanted, I get them put into a puddle made on the headland, and left there for four or five days until they make fresh roots, then have them put down with the spade or dibbles, not deep into the land, but so far as to afford them a sufficient hold. By planting deep they do not succeed so well. Much the same treatment will answer perfectly well for turnips, in the way of sowing and hoeing.

ON STALL-FEEDING CATTLE.—Convinced that you are fully sensible of the benefits to be derived from a judicious system of stall-feeding cattle, and also of the importance that the utmost care and caution should be used to prevent them losing their condition, I need make no apology for submitting to you the following outline of a plan, which, from long experience, I have been led to adopt in the management of cattle. The first object which should engage the attention of those entrusted with the care of cattle, is the providing of comfortable, well-ventilated cow-houses, and seeing that they are kept perfectly free from all dirt and wet. Due attention should be paid to the constitution and health of the animals, as serious losses are sometimes sustained from negligence in this respect. I generally turn in my fat cattle the first week in November, although some persons think this too early; I, however, find it to answer much better than later. The time of changing food is a critical period with cattle, and, therefore, care should be taken to change it very little the first week, and afterwards to increase it by degrees. The first week, I give them plenty of hay and water, with fourteen pounds of turnips each per day. By the second week, they are more reconciled to their stalls, and take well to the turnips, when I give them twenty-eight pounds of turnips, each feed—the first commencing between six and

seven o'clock in the morning, the second at twelve, and the third at half-past four. The third week, I increase their feeds to forty-two pounds, and sometimes more, according to the size of the cattle, or the species of turnip. Four pounds of hay is as much as I find they consume between each feed of turnips, and seven pounds at night—that is, including a feed of hay before the turnips in the morning, twenty-three of hay in the twenty-four hours. I have a patent turnip-slice, which, with the help of one man and a boy, slices thirty-two stones in an hour. By this method, there is no risk or danger of the animals being choked, an accident which often occurs, and which is attended with serious inconvenience and loss of time, in the application of instruments, &c. The cattle should be dressed and curried twice a day, and on no account should any dung be left on their coats. This will not be attended with a great deal of trouble, when regularly practised. I need not explain, to any farmer, the necessity of keeping plenty of clean litter under his cattle—it is very essential, and will also materially aid the increase of the compost heap.

The following is an estimate of the average expenses of stall-feeding twelve head of cattle for one week:—

17½ cwt. of hay, at 1s. 6d. per cwt.....	£1	5	10½
4½ tons of turnips, at 10s. per ton.....	2	7	6
Labourer's hire, at 8d. per day.....	0	4	0
	£3	17	4½
Deduct value of refuse of hay and turnips, given to stock or store cattle, at 1s. a head per week.....	0	12	0
	£3	5	4½

It is, by all practical men agreed that the dung is more than equivalent for the straw.

DOMINICK KELLY.

Agricultural Steward to John Mahon, Esq., Thornfield, Mount-talbot, County of Galway.

Thornfield, January, 1838.

ON SYSTEMS OF CROPPING.

SIR,—We have heard much of the system of cropping land lately, both alternately and successively, and before making any further observation, I frankly state I never had a system in my practice, my individual opinion is, no good land ought to submit to so degrading a restriction as the alternate or four course shift would impose on it; I am of opinion, want of capital and these restrictions in many of our large occupancies, have done more to lay idle our lands than it has done to increase their cropping and consequent productiveness. What will, and I vouch for the fact, be said of land in our county producing wheat 4 qrs. per acre, one year, 3 qrs. white peas next, 5½ qrs. of wheat per acre, next, stubble turnips in the same year, 6 qrs. of oats per acre next, 5 qrs. per acre of wheat next, 6½ qrs. of barley per acre next, clover, large crops of mown and seeded next, and 6 qrs. of wheat an acre next, and oats to follow in as fine clean winter tilth as a man can wish to put seed into. This land, be it remembered, is of the very best quality. The question will be asked, how can such crops be obtained? and the answer I give is, by paying for them, and let us see in what way, suppose the occupancy to be 100 acres, the occupier usually manages by some means or other to manure 50 acres every year by burning earth for the

heavy land part of his farm, and making use of the farm-yard manure principally on his light land. The burning sufficient earth for an acre of land will cost from 25s. to 30s. per acre, for this he sells a load of straw, or a little more as prices vary, and he finds grown sufficient fodder to extend over the quantity stated above. In the above statement it will be seen fallows were made and land cleaned, and the turnips were grown in the winter months and produced a sufficiency of food for 100 sheep a month on the average, but as this would not be sufficient to maintain them through the winter, recourse must be had to a very great quantity of artificial food, such as cut-chaff, oilcakes, grains, &c., both for sheep and other cattle on the farm requiring it beyond straw; and now having stated facts as they have occurred, the question must be decided by your readers, does such a system pay? My opinion is, though such a system is by no means detrimental to the land it will require a capital of at least 12l. per acre, and the labour 35s. per acre to do it, and your readers will now be able to form their own conclusions on the matter by referring to the following statements:—

	£.	s.
Year 1st, 4 qrs. wheat at 60s.....	12	0
Year 2nd, 3 do. white peas at 50s....	7	10
Year 3rd, 5½ do. wheat, at 60s.....	16	10
Turnips at 20s. per acre.....	1	0
Year 4th, 6 qrs. oats at 24s.....	7	4
Year 5th, 5 qrs. wheat per acre, at 55s	13	12
Year 6th, 6½ qrs. barley at 34s.....	10	4
Year 7th, Clover mown and seeded 8l.	8	0
Year 8th, 6 qrs. wheat at 60s.....	18	0
	94	0
	70	0
Balance.....	24	0 for 8 yrs.
Rent at 50s. per acre for 8 years.....	20	0
Seed for successive crops.....	7	0
Tythe at 10s.....	4	0
Poor Rate 10s.....	4	0
Labour at 35s. per acre.....	14	0
Four ploughings and harrowings yearly at 7s..	11	4
Interest on 12l.....	4	16
Wear and tear.....	5	0
	70	0

It will be seen the largest crop was grown last!!!
Profit, 3l. per acre yearly, independent of Stock laid for extra manure.

Yr.	Four course system.	£.	s.	£.	s.
1	Fallow, Turnips	6	0	Rent on 8 years ..	20 0
2	Barley, 7 qrs. at 34s.....	11	18	Seed	6 6
3	Clover	8	0	Poor's rate at 10s..	4 0
4	Wheat, 5 qrs. at 60s.....	15	0	Tithe	4 0
				Sixteen ploughings, &c. at 7s.....	5 12
	Multiply by 2 to make 8 years....	40	18	Labor at 28s. per a.	10 0
		2		Interest on 8l. per a.	3 4
				Wear and tear	3 0
		81	16		56 2
	Expenses ..	56	2		
		25	14		

Leaving in favour of the four-course shift, 3l. 4s. 3d, profit per acre, or in favour of the four course system 4s. 3d. per acre,—who employs the most labour and most benefits to his country, in oft-quoted language.—He who causes a blade of grass to grow more than his neighbour is the most deserving of respect and gratitude from his country, and though we admit there is much land that would not go to

such extremes, still there is much which might grow considerably more under different treatment, and add much (by affording extra employment,) to the happiness of the peasantry by whom it is surrounded. We have demonstrated what land is capable of doing, and though not quite so profitable to the employer of capital, still producing by the running system, 36 qrs. of grain instead of the four course shift produce of 24 qrs., in the space of eight years. As I am aware there are many landlords who read your magazine, I would caution them from inferring from the above statement that 3*l*. per acre can be made by their tenantry, very few make even so much as one, the above was practised on land of excellent quality, and few farms possess the facility or power under the same treatment to grow 10 or 20 per cent. less on their land.

AN ESSEX FARMER.

THE DUTIES ON BRAN IMPORTED. —GRINDING FOREIGN GRAIN IN BOND, &c., &c.

TO THE EDITOR OF THE MARK LANE EXPRESS.

MR. EDITOR,—Living as I do in a retired part of the country, where information is not easily obtained, may I beg to ask you the following questions:—

1st, Whether bran is not admissible from foreign countries for home consumption at a trifling duty, and whether under that name an article may not be imported, from which, owing to their superior machinery, our millers may extract a very considerable proportion of flour?

2dly, Whether there is not more wheat imported into England from the Channel Islands than they could possibly produce, and whether the same may not have been smuggled from the French coast?

3dly, Whether it would not be a manifest advantage to the English farmer, that the weighty stock of foreign wheat in bond, which now keeps down the market, should be reduced by allowing it to be exported in flour, and whether every possible objection thereto would not be obviated by calculating upon the produce of flour, yielded by the very best Danzig, in place of that yielded by an average quality, and thus secure that none of the produce could be made available to home consumption?

4thly, If it should so happen that (from the diminished breadth of wheat sown, and the indifferent produce of the wheat crop this last season,) markets should so far advance as to render it possible that the ports should be opened for free importation,—whether it might not be good policy in the agricultural interest to admit of the quantity now actually in bond to be taken out for home consumption by a special Act of Parliament for that purpose, and thereby prevent the price rising to the limit of *free importation*, rather than incur the risk of *that event* taking place, and being liable for three months to have the kingdom inundated with foreign grain?

I trust you will pardon me for proposing these questions to you, for it seems to me of great importance they should be satisfactorily answered. Should the price of wheat advance, as it is very generally expected to do, this, coupled with the low rate of manufacturing wages, would give great weight to the arguments that will be brought forward for a repeal of the Corn Laws, which I should very much deprecate; and it would appear to me that this ex-

pedient would be an advantageous compromise for both parties under the circumstances supposed.

The question of the Repeal of the Corn Laws will now shortly be discussed in Parliament, and as public opinion will greatly influence the decision I trust you will lend your aid to have the matter considered in every possible point of view. If prices advanced to the height upon which the query is founded, it appears to me the limited quantity in bond would not have any great effect in *lowering* the market, though it might have the intended effect of preventing it *advancing*. But I entirely agree with the author of "The Claims of the Landed Interests," that any free and unlimited admission would be complete destruction to the British farmer.

Though in a late letter I advocated high prices for agricultural produce, I hope I shall not be misunderstood to have been actuated by any wish to give high rents to the landlords, or high profits to the farmers, to the disadvantage of the rest of the community. I can say with truth that I argued for the general benefit, as I conceive without high prices of agricultural produce the income of the community could not be kept up to the pitch necessary to make the taxes productive. I must also beg leave to add, that the tenant is more interested in having *steady prices* than *high prices*, for his rent must eventually come down to *what he can afford to pay*, otherwise the land will be left deserted; therefore his interest in the question is but a temporary one; and if I am right in my opinion, this steady range of prices never can be attained until the corn market is relieved from *the incubus of the stock of foreign grain which oppresses it*, and this must, in my mind, *continue* whilst the variable scale of duties *continues*, for it is the variable scale which occasions all speculation to be confined to the foreign stocks, and prevents speculators from holding over the surplus produce of one year of home growth to supply the deficiency of the succeeding, which alone can steady the prices. The reason why this is the case appears to me quite plain. The speculator in home growth, if markets advance, as he expects, is liable to be met by a quantity of foreign grain entered at a low duty, or perhaps no duty at all, which not only destroys any chance of profit, but may produce considerable loss; whereas, if there was a fixed duty, fully sufficient to equalise the circumstances of the home and foreign grown, the speculator would be free from the foregoing ground of apprehension.

It is also to be remarked, that the variable scale of duty being set aside, there could be no inducement to import foreign grain to keep it in bond in this country at a great expence, inasmuch as it would at all times be subject to the same duty, and this change therefore would completely do away with the bonding system in the article of grain under ordinary circumstances, and leave to speculators a fair inducement to purchase the home growth at all times when it appeared to them below the average price.

I hope I have made my meaning clear, for these matters are of the most vital importance, and the public, I dare say, will be anxious to hear your opinion thereon at this interesting period, when it is hard to say to what ruinous extent the free trade doctrines may be pressed upon the Legislature.

I am, Sir, your very obedient servant,
MERCATOR.

The rook is a benefactor to mankind; and to the rook must be added the starling. The great usefulness of this bird is well known in some quarters, and the husbandman is not wise who permits rooks and star-

lings to be wantonly killed. We are under very great obligations to both these kind of birds; and though the rook may sometimes take a few grains of corn, and the starling occasionally invite himself to a little fruit, yet their public services, in freeing the ground from vermin, which would, in spite of the efforts of man, go on increasing in numbers, till famine would be the result, do entitle these pretty creatures to the kindest treatment. Let the farmer content himself with employing children to frighten away their friends, when the seed is newly sown, or when the crop is approaching to maturity; but the lives of the rook and the starling be religiously spared.—*Wilts Standard*.

THE TIMBER TRADE.

DANZIG, 30th Jan.—After having summed up the present stock of wood articles in Danzig, we hasten to make a statement of it to our friends, adding some remarks on the course of last year's trade and on its present situation.

Our stock consists of 56,000 pieces of fir round timber; 61,500 do. square do.; 12,000 do. small do.

All the round timber which arrived here during last season found buyers, and although the quantity of logs does not exceed the number of 53,400, which is 2,000 to 3,000 less than the previous season, a larger proportion of deals, &c. can be manufactured, as 10,000 logs which remained unsold at the beginning of last season were also sold to our manufacturers, and from the greater soundness and better quality of the arrivals of last season, they will deliver a lesser proportion of firewood, which latter experienced, in consequence, an advance in value of about 25 per cent. We, therefore, entertain no doubt of being able to execute those orders for fir manufactured goods with which our friends may honour us with, at the annexed quotations, to their satisfaction, and are even led to entertain hopes that some articles may be contracted for spring delivery at an abatement in price, if the quantity ordered should be considerable, and we were soon empowered to make such contracts. We have mentioned above that the quality of the round logs is satisfactory, and it will be our constant study, in the selection of manufactured goods, to promote the interest of our friends as much as possible. The demand for thinner dimensions of deals proves, hitherto, to be much less than at the same period of last year, and no contracts for 3 inch deck planks or 3 inch short deals have yet been made; the second quality of the latter description, or first brack, we expect to get at a more reasonable rate provided the orders should be extensive.

Masts are getting more rare every season, the forests in the neighbourhood of rivers or canals being nearly exhausted, and the charges of transport from more distant situated forests are too considerable to deliver them at the prices paid here: notwithstanding, we shall have, next spring, a better selection of masts of middling sizes, while masts of large dimensions will still be scarce. The agents for the Danish government are very eager to secure what is offering of good merchantable stuff. Since two years we have also had some supplies from Russia, but it is to be feared that the Russian government will prohibit the exportation for the future.

We have but a very small stock of white-wood spars, but supplies are expected from the neighbouring districts.

The number of fir square barks shipped last season amounts to 48,000 pieces, and that of small timbers to 4,000 pieces. Had the rates of freight been more moderate the shipments would have exceeded that number, particularly as at one period of last summer purchases were made at 20 per cent. below the present value of timber. The advance of prices in Liverpool and Bordeaux during last autumn caused ours to advance equally. 11,000 pieces of timber are still in first hands, part of which is of good quality, and most likely might be secured during winter at prices within our quotations, particularly if a sufficient quantity of snow should

fall, and the present frost should continue to be severe, which would facilitate the transport of timber in the marshy lands of Poland. Part of the above-mentioned stock of timber will be cut up into deck planks, but this deficiency will be made good from those rough logs of timber which are fit for being squared. France does not appear to be in great want of timber: no charters have hitherto been closed to that country, while 11 or 12 large vessels have been engaged to Liverpool and London.

The quantity of oak planks shipped and used for home consumption during last year, amounted to 17,000 pieces; an equal quantity having arrived, we hold a similar stock to that at the beginning of last season, say 23,000 pieces, all of which is in second hands. The quality is superior to that of last year, and the assortments better, two-thirds of the stock being 1st brack, and the remainder 2nd brack; 4 inch 1st brack without addition of other dimensions, can be had under our quotations.

The shipments of oak timber during last season, amounted to about 2,000 pieces, and the present stock of good shippable stuff does not exceed 200 pieces, which did not arrive until late in the season; the demand for this article is brisk, and is increased by the wants of our ship builders. It may therefore be advisable to order as soon as possible what may be required.

In our stave yards there were 300 mille staves at the beginning of last season; the arrivals amounted to 500 do.; of which 400 do. have been shipped, leaving a stock of 400 mille staves of all sorts, nearly half of which is pipe staves. The demand for this description of staves is limited, and it is a long time since our prices have been as moderate as at present. The manufacturers in the forests, situated on the banks of the Vistula, have had a particular view to import larger dimensions than heretofore, and they are consequently as fit for the British markets as those from Volhynia, while the quality of the wood of most of the parcels is excellent, and will give satisfaction. Amongst the 45 mille still unsold, there was about 20 mille of barrel staves manufactured for the British market, for which 27l. per mille is asked. Of brandy staves the stock amounts to 30 mille, of hog-head staves to 80 mille, of barrel to 75 mille, and of headings to 20 mille.

The rate of freights which materially affects the timber trade, was prejudicial to the same during last season. From the statement of freights at foot, it appears that they are on the decline, from which circumstance we are justified to expect an improved state of trade next season. Whether the rebellion in Canada may influence prices, we must leave to the better judgment of our friends, and confine ourselves to state that our timber merchants direct all their attention to this point, so that the least improvement of prices in Britain, originating from it would cause them immediately to raise their demands out of proportion. The most speedy transmission of your orders would alone secure advantageous bargains to be made, if the case should happen to become of a serious nature.

LUBIENSKI & Co.

J. E. BODY, Agent, 34, Mark Lane, London.

Prices Current of Wood Goods.

Fir timber, crown, 33s. per load; best middling, 25s. to 26s.; ord. middling, 21s. Small timber, 20s. Deck planks, 3 inch 36 to 45 ft. averaging 40 ft., crown, 12s. per piece; first brack, 7s. to 7s. 4d. Deals, 3 inch 14 to 21 ft. averaging 18 ft., crown, 9l. per stand. hundred; first brack, 6l. to 6l. 8s. Deal ends, 3 inch 6 ft. two-thirds of the price of deals. Lathwood, 4 feet, 1l. 18s. per fathom; 6 feet, 2l. 17s.; 8 feet, 5l. 15s. Oak timber, 3l. 15s. per load. Oak plank, first brack, 4l. 10s. to 5l.; second, 3l. 6s. to 3l. 12s. Staves, pipe, crown, 68l. to 75l., first brack, 54l. per mille; brandy, crown, 52l., first brack, 42l.; hoghead, crown, 42l., first brack, 32l. Oak trenails, 1s. 6d. to 2s. per 60 feet. Fir, 1s. to 1s. 6d. Masts, of 65 to 70 feet 22 to 24 inch diameter 16l. to 19l. per piece; do. 20 to 21 inch diameter, 15l.; 60 to 65 feet 18 to 19 inch diameter, 11l. to 13l.; 50 to 55 feet 16 to 17 inch diameter, 5l. 10s. to 7l. Spars, 45 to 55 feet 12 to 15 inch diameter, 2l. 5s. to 3l. 10s.; 38 to 44

feet 10 to 12 inch diameter, 1l. 10s. to 2l.; 32 to 36 feet 8 to 9 inch diameter, 15s. to 18s. Bowsprits, 40 to 48 feet 20 to 23 inch diameter, 6l. 6s. to 9l.; 38 to 42 feet 18 to 19 inch diameter, 4l. 15s. to 6l.; 36 to 38 feet 16 to 17 inch diameter, 3l. 6s. to 4l. 10s.; 34 to 36 feet 14 to 15 inch diameter, 2l. 5s. White wood spars, 3 inch, 4, 5, 6, 7, 8, 9, 10 inch diameter, 1s. 2d., 2s., 3s., 5s., 7s., 9s., 12s., 15s. per piece. Barrel staves, 27l. Headings, 21l.

Freights to London in February last 25s. during last season, 22s. to 23s. in December last, to sail next spring 21s. per load timber.

Do. to Liverpool in March last 28s., during last season 22s. to 24s., in November and December last to sail next spring 24s. to 26s. per load.

Do. to Hull during last summer 20s. to 21s. 6d. per load.

Do. to Newcastle during last summer 18s. to 20s., in December last to sail next spring 19s. 6d. per load deals.

ON THE EFFECTS OF HIGH AND LOW PRICES.

SIR,—The effects of a high or low price of corn, and agricultural produce, on the general prosperity of this country, is a question which has exercised the pens of many able writers; it is clearly a question of comparative loss and gain, in which it is not easy to strike the balance: your ingenious correspondent, Mercator, (Jan. 29,) takes the side of those who deprecate low prices, as, on the whole, injurious; he argues the matter very clearly thus:—

“The finances of the country depend on the produce of the taxes, the produce of the taxes depends on the consumption of taxable articles; and again, this consumption depends on the annual income of the community, which supplies the means of purchasing such commodities. If you lower the price of agricultural produce, you inevitably lower the rent of land, which is, beyond all comparison, the item which adds most to that fund which supports the consumption of taxable articles, and thereby a deadly wound is inflicted upon the revenues of the country, which even in the present state, are barely sufficient to meet the expences of government, and pay the public creditor. But the injury which would thus be inflicted on the finances of the country, would not end with the mere loss of revenue proportioned to the reduction in the income arising from rent, it must not be lost sight of that with the fall in the price of agricultural produce, a proportionate fall must take place in the wages of labour; and of this fact the advocates of low prices are fully aware. The same cause, therefore, which lowers rent, having a direct tendency to lower labour also, it follows that the income or earnings of every working man, in every department of trade and manufacture, will be lowered in like manner. Here then is another item withdrawn from the fund applicable to the purchase and consumption of taxable articles, by which the revenues of the state must suffer; and it is not to be supposed that the loss of income, and consequent distress, in which so large a portion of the community would be thus involved, would be without a prejudicial influence upon the circumstances of the other classes of society, however apparently unconnected with the original, operating cause; and thus almost every other member of the community would be embarrassed, the public creditor would be rendered insecure, the national prosperity would be interrupted, and the pressure of taxation would be more severely felt by individuals, from their diminished means, and the undiminished price of all taxable articles. It does, therefore, seem

to me quite clear, that with all the consequences that must attend the fall in price of agricultural produce, and the rent of land, that the comforts of life would thereby be rendered *more unattainable* by the great bulk of the community, and this must continue to be the case, as long as the taxation of those comforts, continues to prevent their falling in price in a manner corresponding to the reduction of wages. It being evident that if agricultural produce was lowered in price one-half, it would not in any (proportionate?) degree lower the price of tea, sugar, coffee, or any comforts in which taxation forms the greater part of the cost.”

Wishing this question to be sifted to the bottom, I beg leave to state some of the arguments used by those persons who advocate the opposite side. Before doing so, I will observe that the above reasoning is incontrovertible, if applied to a fall in the price of all commodities, and all property, the inevitable effect of a rise in the value of money, from a decreasing supply of the precious metals, or of paper circulation. Even the Doctrinaires cannot disprove or deny this, but they contend that a fall in the price of corn, in consequence of importation, will lower the exchangeable value of corn only, that the price of no other commodities will be affected, that if the price of labour falls, which it must do, when the price of corn is lowered, the real profits of all descriptions must rise, to the great benefit of all persons employing a capital, particularly to the manufacturing and commercial part of society; that if the demand for home commodities should be diminished, because of the fall of rent, on the part of the landlords, it will be increased, in a far greater degree, by the increased opulence of the commercial classes; that by a better distribution of capital more hands would be employed, that greater profits would lead to further accumulation, and thus a stimulus to population would be given by really high wages, which could not fail to ameliorate the condition of the labouring classes; that the capital withdrawn from agriculture would be employed in such commodities as would be exported, in return for imported corn. If no very great increase of foreign trade should follow from a low price of corn, and free trade, the consequences apprehended by Mercator, must, I think follow; but the Doctrinaires depend on a very great increase; and on this point, it seems, that the balance of loss or gain to the Nation hinges. Ricardo, from whose “Essay on the influence of a low price of corn on the profit of stock,” I have taken the above, asserts that the wealth of England would be considerably augmented by a low price of corn and free trade, although he admits that the whole money value of that wealth would be diminished. “It would be diminished,” he says, “by the whole difference of the money value of the corn consumed, it would be augmented by the increased exchangeable value of all those commodities which would be exported, in exchange for the corn imported. The latter, however, he says, would be very unequal to the former; therefore the money value of the commodities would, undoubtedly, be considerably lowered.” “But though it is true that the money value of the mass of commodities would be diminished, it by no means follows that our annual revenue would fall in the same degree. The advocates of free importation ground their opinion of the advantage of it, on the conviction that the revenue would not so fall. And as it is from our revenue that taxes are paid, the burthen might not be really augmented.

“Suppose the revenue of a country to fall from ten to nine millions, whilst the value of money altered

in the proportion of ten to eight, such country would have a larger neat revenue, after paying a million from the smaller, than it would have after paying it from the larger sum."

Mercator does not seem to make allowance for an increase of foreign export, in a free trade. On the other hand the economists perhaps depend too much on it. On this point, however, as I have before said, the balance of gain or loss seems to hinge, considered nationally. But independent of this consideration, there are others which may induce us to pause, and view with apprehension, the prospect of a free trade in corn, such as the danger of dependence on foreign countries for a very great proportion of our food, and of interruption to the supply of it from war, deficient crops abroad, or from caprice in the governments of those countries, whence the supplies are drawn. I beg to refer your correspondent to Ricardo's "Essay," above-mentioned, also to Mr. Malthus's pamphlets, "Observations on the Corn Laws," and grounds of an opinion on the policy of restricting the importation of foreign corn." In these publications, the above subject is ably discussed.

Like Mercator, I should be gratified by your stating your own views, Mr. Editor, on this subject. And I invite all persons who may be so inclined, to give their opinions also. Hoping that Mercator will give us the result of his further inquiries, I am, Sir, your obedient servant,

T. F.
Feb. 1838.

NEW SOUTH WALES AS IT IS.

Hobart Town, Oct. 8, 1837.

MY DEAR SIR,—I have delayed writing to you thus long in order that I might be able to state facts from personal observation, and give you my own opinion upon this country in preference to that of other people, which I find very difficult to come by; and after you have been at infinite pains to collect the ideas and experience of others, I have invariably found their statements in direct opposition to my own senses, and in most instances perfectly useless to a new settler, or as they call us, *new chums*. After a tedious and uninteresting passage we arrived here on the 6th Dec., having sailed from Portsmouth on the 12th Aug.; my family bore the disagreeables of such a long voyage much better than I anticipated, and all landed in good health and spirits. I was so fortunate as to meet with a very good mercantile engagement before we left the ship, and where I still continue. I at once took a cottage outside the town with four rooms, kitchen, and garden of about an acre, well stocked with good fruit trees in full bearing; we had abundance of good fruit but no vegetables, the place having been some time unoccupied and suffered to run wild. I had the whole dug up for a fallow, after which I undertook to cultivate it myself, rising before daybreak and working hard till breakfast, and after I return from the office resume my task daily till dusk, which produces good appetite, sound sleep, and excellent health. The soil is various and not good, requiring much manure, and I have very little to give it, but my crop of everything promises well. I keep two goats which supply us with milk, and pigs for bacon and porkers, one of the latter I had killed a week ago, and shall slaughter another in three weeks; as feed is very dear these pigs cost me eight-pence per lb., but they keep me (at this scarce season of the year) out of the butcher's shop, where I should have to pay 10d. per lb. for beef, not good, and 8d. for scraggy mutton. As the spring advances meat becomes gradu-

ally better and cheaper, and in early summer is most excellent. The farmers confine themselves almost exclusively to grazing sheep and cattle, in consequence cultivation is most shamefully neglected, both as to extent and management. They say money is more easily earned by growing wool than cultivating grain, turnips, &c., ultimately this evil will produce its own remedy, one step towards which is the great fall in wool in your market. Although turnips succeed admirably when sown in proper season, there is very little stall fed meat produced. I know of nothing that would pay so well, really good beef would sell in any quantity at this moment to the butchers at 10s. 6d. per stone of 14lbs., and they would retail it at 10d. to 1s. per lb. Tallow always sells well, and the hides find a good market. Good land is not in abundance in this island, and you rarely meet with ten acres of equal quality. The black soil is extremely productive of grain, and the sandy land on the coast produces most delightful potatoes. The bread, potatoes, and mutton in summer are the best I ever eat. It has hitherto been the custom here to grow wheat in successive crops as long as the land will produce any; some land that I have seen has stood this for nearly 20 years, and does not yet appear exhausted; then let it lay in wild oats and self-sown indigenous grass which they mow yearly and call it hay, frequently selling it for 5*l.* 6*l.* and 7*l.* per ton. Some farmers sow rye grass with barley or oats, which they cut sometimes green, and at others when nearly ripe, or in the milky state, and make into hay. Fallows are very rarely seen—I understand the effect of a summer fallow is astonishing. The farmers sell all their hay and straw to the nearest towns and never take manure in return, you will readily conceive that this system cannot last long; farms to sell and let are plentiful in the market at moderate terms. A good farmer with a capital of 600*l.* to 1,000*l.* would do much better here than at home with three times the capital, that is, if he would be industrious, sober, and economical; dairy farming pays admirably, butter averages from 2*s.* to 3*s.* 6*d.* per lb., poultry and eggs are always dear. At present this colony has suffered, and is smarting under the severe check given to it by the refusal of Government to give grants of land to emigrants. They must ultimately resort to this system or the colony cannot go forward, it must and will retrograde. The whale fishery is a most important branch of trade and a great source of wealth. This season is said to be more than usually productive; if oil maintains its price in Europe it will enrich the speculators. Ordinary clerks need not come out to this place to seek employment, the market is overstocked already. Linen-draperies are much wanted, and I imagine a dozen good hands would find instant employment; wages, 40*l.*, 50*l.* to 80*l.* a year with bed and board; I know one or two instances where a much higher salary is paid to men who thoroughly understand the trade and are good shopmen; idlers, spendthrifts and drunkards find no encouragement here. Mechanics of all descriptions are here in abundance. What appears to me to be most wanted is the small industrious farmer, such as once existed in England, and could rear a family in industry and decency upon 20 to 40 acres of land. This is a most excellent town containing I understand from 15 to 17,000 inhabitants, it far exceeded my expectations, and considering that 35 years ago the whole was a forest, is really a miracle. The harbour or cove is spacious and beautiful. The river Derwent from the new wharf to Kangaroo point is three miles across. The utmost rise of tide is about five feet at full and change of moon. Fish is scarce

and generally of inferior quality, except crawfish, which is plentiful, good, and reasonable in price. There is not a native singing bird in the island; quails are abundant and good; kangaroo scarce, dear, and coarse. Groceries generally of bad quality, and not cheap according to quality, tea 1s. 6d., coffee, 11d. per lb., both abominable. Sugar 4d. to 5d., tolerable; loaf sugar 11d. to 1s.; dried fruit dear and bad. Clothes dear. Shoes good and moderate. House rent much lower than it was a few years ago, I pay 30l. per annum, taxes none, unless you think proper to tax yourself by drinking spirits or wine. The police is most efficient, and I believe property and person to be more secure here than in any town of equal magnitude in England; the town is ill supplied with very impure water. Filters very useful, I luckily brought a good one with me, which was a great luxury on the passage and most useful here. Climate very changeable but salubrious. We have summer in the valley, and upon Mount Wellington (distant about seven miles to the summit) winter. Wood dear and not generally of good quality. Coals, Port Arthur, delivered at 15s. per ton, sometimes very good, and occasionally very bad; they give very little smoke or flame, burning much like coke. The Sydney coal are dear, 44s. to 50s. per ton, according to season and supply; they are much like the Newcastle coal, blaze brightly and cake together. Sharks abound on the coast and in the river, some of them of enormous size, I have seen the head of one sufficiently capacious to take in a man at a single gulp. The houses are all covered with shingles, which, from exposure to the weather, become blue and look quite as handsome as the best slate in England. Servants are of the very worst description, and I am told that assigned servants are preferable to such as have been sent out by the Emigration Committee. The generality of convicts here are decidedly better off than English labourers; they are well clothed and fed for little work. Slugs rise here innumerable, a horrible scourge to vegetables, and some seasons destroy the crops. I find hot line a certain cure for this vermin. The turnip fly, precisely the same insect as you have in England, commits similar ravages upon turnips, and after we are rid of them come the grasshopper, a still more formidable enemy, if the turnips be not well into the rough leaf. During the summer this country is subject to occasional hot winds, a kind of sirocco, which does immense damage to grain and fruit, hundreds of acres of wheat were blighted by one of these winds last January, and it made a clean sweep of such gooseberries, currants, and raspberries as I had not taken. This sirocco was said to have been the most severe that has been experienced in the colony. When exposed to it, it was like facing the atmosphere of a furnace, and really intolerable, fortunately it only lasted a few hours. The prevailing winds here are from the north, in summer we have almost daily four or five hours south wind, or as they call it the sea breeze, which is most pleasant and refreshing; where I now sit writing this epistle I have a view of a garden close at hand with almond, pear, and plum trees in full blossom, and in the distance, Mount Wellington covered with snow. Here it is warm as your June, and there cold as December. The two extremes not being over four miles distant as the crow flies, and a walk of about seven miles. The valleys abound with beautiful and fragrant flowers amongst which is the jouquil in full blow; roses, sweet-briar, stocks, and geraniums have been imported and thrive beautifully. We are ten hours earlier than you, it is now 2 p. m. and midnight in London.

HINTS FOR PREVENTION OF DISORDERS IN HORSES.

CHIEFLY TAKEN FROM MESSRS. CLARKE AND WHITE'S VALUABLE TREATISE ON HORSES.

STABLES.

Stables should be lofty, light and airy, and should never contain more than six or eight horses. They are in general kept too close and hot.

Too much clothing also is usually put upon the horses, which thus become so tender, that they catch cold upon every slight exposure to a cool air.

The doors and windows of stables should be thrown open when the horses are out, but care must be taken that a cold current of air does not immediately blow upon them when in the stable, particularly if they are heated.

It is a bad practice to allow horses to stand upon litter in the day-time, except they are unwell or fatigued.

FOOD.

The quantity and quality of a horse's food should invariably be regulated by the exercise and fatigue he has to undergo; high feeding, without proportionate work, produces half the disorders to which horses are subject.

Good hay is of much consequence to horses engaged in active exercises; but it should be given in small quantities during the day; and when owing to bad weather, the horses cannot be exercised, they should be stinted both in their hay and corn; and a bundle or two of clean wheat straw may be put before them. All grain given to horses, would be more nutritive if bruised in a mill and mixed occasionally with chopt straw. Carrots are a most wholesome food, and of all roots, rank next to corn in point of nourishment. They are particularly serviceable when a horse's wind is affected.

When horses are first taken from grass they should be gradually brought to a dry diet by giving them carrots, lucerne, bran mash, &c., with their hay. After a few days a small quantity of oats may be given, and the feed increased by degrees till they come to their full allowance. They should likewise be put into a cool stable, and have plenty of walking exercise. If such precautions were attended to, a great saving might be made, both of physic, and the horse's constitutions.

WATER.

Pond water, if it lie on a clay bottom and be sweet, agrees best with horses; hard water may be improved by throwing some chalk or clay into it, and exposing it in cisterns to the open air.

It is proper to let the water, intended for the horses, stand for some hours in pails in the stables before it is used.

Water should be offered to horses frequently; they would then never drink large quantities of it at a time, which is particularly hurtful to them when heated by exercise. It is a good and safe plan when travelling, &c., always to mix hot water enough with their cold to take off the chill.

EXERCISE.

A horse's exercise should be proportioned to his strength, manner of feeding, and the labour required of him. He ought however, to have at least two hours of daily exercise.

Horses should not be ridden fast after having been newly fed and watered. A fat horse requires a long

course of moderate exercise, before he can safely be put to trot, which is violent.

It should be a general rule to ride a horse slowly at the beginning of a stage; afterwards increase the pace, and slacken it again a mile or two before the end of it, so as to bring him tolerably cool into the stable.

If horses come in very warm, they should be walked about gradually till cool, their feet should then be picked, and all dirt and gravel carefully washed out. In hot weather, washing their legs is proper, but they should always be well rubbed afterwards. In winter, cold water is injurious to the heels, and apt to bring on swelling and the grease.

Horses should on no account be permitted to stand uncovered in the stable, much less at the stable doors after being much heated, except the weather be very warm. Road horses should in the middle of a long stage have half a pail of water mixed with a little oatmeal; and on a journey, if no other corn but what is soft and new can be procured, oatmeal just moistened with water or some coarse bread, should be given in preference to such corn, which is extremely unwholesome. If a horse grow costive, let him have some mashies of scalded bran or malt. If he have any difficulty in staling only, an ounce of nitre may be given in his food for a few nights.

Should he be seized with a violent fit of the gripes, let him be bled, back-raked, and have a glyster of three or four quarts of water gruel mixed with eight ounces of glauher or common salt.

The best instrument for giving a glyster is an ox bladder, that will hold two or three quarts tied to the end of a wooden pipe about fourteen inches long, one inch and a half diameter where the bag is tied, and of a gradual taper to the extremity, where the thickness should suddenly increase, and be rounded off at the point, and made as smooth as possible. The hole through the pipe may be made sufficiently large to admit the end of a common funnel for pouring the liquor into the bag; no other force is requisite to throw it up, than the holding the bag a little higher than the level of the pipe. If in consequence of violent inflammation and pain, and opiates should be necessary, a table spoonful of laudanum may be given in a pint of water.

Should a horse be touched in his wind, be very careful that he has only moderate quantities of food and water at a time. Two spoonfuls of tar mixed with the yolk of an egg given in a morning fasting will be of great service to him when travelling. In hot dry weather, it is useful to stop horse's feet at night with a mixture of soft clay and cow dung, and to moisten them frequently with water.

FRICITION.

The currying, brushing, and rubbing down horses is of great importance, not only to their coats, but also to their general health; when these operations are neglected, or slightly performed, an obstruction takes place in the pores of the skin producing mange, &c., and the hair instead of being smooth and shining, stares, and stands on end. Nothing tends so much to prevent grease and swelling of the legs as frequent hard rubbing and carefully cleaning the heels.

TRIMMING.

The ears of horses are covered with a short down in the inside, mixed with larger hairs, to prevent cold air, rain, dust and flies from hurting the internal ear. The trimming therefore this part, is very prejudicial to the horse.

PHYSIC.

It is adviseable to prepare a horse for physic by giving him bran mashies for a day or two.

The morning is the best time for giving a purgative, the horse having previously fasted for two or three hours; during this day, he is to be kept in the stable, and fed with bran mashies, and a moderate quantity of hay. He may be allowed to drink plentifully of warm water, and if he refuses it warm, let the chill only just be taken off. On the following morning he is to be gently exercised, when the medicine will generally begin to operate, and he is to be plentifully supplied with bran mashies and warm water. Warm clothing, particularly when he is out of the stable, is highly necessary.

On the next day the purging will generally have ceased; then a small quantity of corn may be allowed.

When physic does not operate at the usual time, the horse appearing sick and griped, relief may be had by giving a glyster of water-gruel and making him drink freely of warm water, which should be assisted by exercise.

When purging balls are given to horses the head should be kept up, and care taken that the ball pass down the gullet, which may easily be discovered sliding down from the outside.

Mr. Clarke advises a bran mash to be given an hour before the physic.

The following formulæ are chiefly taken from White's Farriery.

PURGING BALLS.

No. 1.

Succotrine Aloes.....	7 dr.
Prepared Natron.....	2 dr.
Ginger powdered.....	1 dr.
Oil of Carraways.....	10 drops.

Syrup of Buckthorn enough to make the Ball.
This dose is sufficient for a strong horse. For a weak or small horse six drams of Succotrine Aloes would be sufficient.

No. 2.

Succotrine Aloes.....	1 oz.
Cream of Tartar.....	4 dr.
Ginger powdered.....	2 dr.

Syrup of Buckthorn to form the Ball.

POULTICE.

Take of fine bran one quart, pour on it a sufficient quantity of boiling water to make a thin paste, and linseed powder enough to give it a proper consistence.

DIURETIC BALLS.

Castile Soap.....	4 oz.
Powdered Rozin and Nitre...	2 oz.
Oil of Juniper.....	$\frac{1}{2}$ oz.

Linseed powder and Syrup enough to give it a proper consistence. To be divided into six balls for strong, and eight for delicate horses.

Diuretic Balls should be taken at night and worked off the next morning, allowing the horse plenty of water.

ALTERATIVE POWDERS.

An ounce of Nitre mixed with a quarter of an ounce of Sulphur given morning and night for a fortnight or three weeks is a safe and useful alterative.

ASTRINGENT OINTMENT FOR THE GREASE.

Hogs Lard.....	4 oz.
Oil of Turpentine.....	2 dr.
Acerated Water of Litharge..	$\frac{1}{2}$ oz.

LETTER TO THE FARMERS OF MASSACHUSETTS.

ON THE SUBJECT OF AN AGRICULTURAL SURVEY OF THE STATE BY THE AUTHORITY OF THE LEGISLATURE.

BY HENRY COLMAN, COMMISSIONER FOR SUCH SURVEY.

SIR,—Having been appointed by the executive of the commonwealth, under the provisions of a resolve of the legislature, passed at its last session, commissioner to make an agricultural survey of the state, I take the liberty of addressing this circular to several gentlemen of intelligence and respectability in the different towns, yourself among others, with a view to obtain their advice and co-operation in accomplishing such survey.

You will allow me, then, to point out the general objects of inquiry; and to solicit particularly your attention to them; that when I visit you, as I shall ask the pleasure of doing, you will be able to give me, in respect to those which have been the subjects, either of your experience, inquiry, or observation, the desired information. By the resolve it is made the duty of the commissioner "To collect accurate information of the state and condition of the agriculture of the commonwealth, and every subject connected with it; point out the means of improvement; and make a detailed report thereof, with as much exactness as circumstances will admit." From the terms of the resolve it is apparent that the duty is very comprehensive; as it embraces every subject connected with the agriculture of the state, and the means of its improvement. The more full however it is, the more useful it is likely to prove; and exactness in the information obtained is obviously of the very highest importance. I will now point out some of the objects to which inquiries will be directed.

I. *The nature of the soil, in different parts of the state; and particularly in reference to the crops cultivated.*

II. *The climate, with reference to the crops grown; the usual time of ploughing, planting, and harvesting; the occurrence of early frosts; the length of winter; the average temperature; and the quantity of rain or snow in any year.*

It is desirable that meteorological observations should be made in different parts of the state.

III. 1. *The number of acres in any town cultivated, or in any form productive.*

2. in wood, timber, &c.
3. capable of cultivation but unproductive.
4. waste or irreclaimable.

IV. *Products.*

1. The amount raised in any town in any given year.
2. The average yield of any crop per acre.

V. *Crops cultivated; among which are the following:—*

Wheat.	Hemp.	Herds Grass.	Potatoes.
Indian Corn.	Flax.	Clovers.	Onions.
Rye.	Tobacco.	Red top.	Cabbages.
Barley.	Hops.	Orchard.	Carrots.
Oats.	Broom Corn.	Lucerne.	Parsnips.
Buck Wheat.	Teasles.	Tall Meadow.	Beets.
Peas.	Madder.	Oats.	Artichokes.
Beans.	Woad.	English Bent.	Pumpkins.
Tares.	Saffron.	Rye Grass.	Turnips.
Lupins.	Rape.	Millet.	Fruits.
	Mints.	Foul Meadow.	Garden vegetables.
		Blue Grass.	
		Salt Meadow Grasses.	
		Thatch,	
		Bonnets.	
		Mulberry for Silk.	
		Sunflower for Oil.	
		Poppy for Opium.	
		Mustard.	
		Succory.	

VI. *Other Products.*

Wool.	Beef.	Mutton.	Cheese.
Silk.	Pork.	Lard.	Butter.

VII. *Rotation of Crops.*

VIII. *Modes of Cultivation.*

1. Soils adapted to particular crops.
2. Preparation of the soil by ploughing and manures.
3. Seeds, selection, change of seed, quantity, preparation, steep for seeds, preservation of seed from worms, birds, and vermin.
4. Care and management of the growing crop.
5. Harvesting. Time and manner.
6. Use and application of the product.
7. Labour required, and general expenses of a crop.
8. Value of the crop for use or sale.
9. Marketing of the product.

XI. *Diseases of crops. Blight, mildew, rust, curl, &c.*

X. *Weeds; and methods of extermination.*

Thistles, Canada thistles, brake, laurel, ox-eyed daisy or white weed, ranunculus or butter cup, wood wax, pine-weed, St. John's wort, charlock or cadluc, sorrel, cockle, tares, chess or cheat, &c., &c.

XI. *Refuse of crops: preservation, value, and use for fodder or manure.*

1. value and use of the stalks and husks of Indian corn, and how preserved.
2. Value and use of the stalks and husks of broom corn.
3. " " of the straw of wheat, rye, oats and barley.
4. " " of the haulm of peas and buck wheat.
5. " " of potato tops, &c., &c.

It may be useful in this place to give an outline of the manner in which it may be desirable to conduct the inquiries. I will take for examples, wheat and Indian corn.

Wheat.

1. History of its cultivation in the state.
2. Kinds, bearded or bald, flint or soft skin, red or white, summer or winter, where obtained, by what name or quality designated, average weight per bushel.
3. Amount of any particular crop, extent of land sown,

4. Condition of the land, nature of the soil, whether newly cleared, burnt, swarded, or how used for two or three years previously; how prepared for sowing.

5. Kind and quantity of manure, use of lime, plaster, or any compost manure.

6. The quantity of seed to an acre, and preparation of the seed; advantages or evils of steeping the seed.

7. The time of sowing, week and day, if possible to be ascertained. The importance of such an inquiry as this will appear for the reasons which follow :—

It is strongly recommended that wheat should be sown before the 14th of September, so as to be well rooted before winter, thus affording a better protection against frosts. Or else so late as not to germinate before spring; this method has been tried. Or frozen in water in the autumn and kept so until the spring, which experiment is reported to have been successful. It is often desirable for wheat to follow Indian corn, but Indian corn in general cannot be taken off in season to get the wheat sown. The discovery of any mode, such as the above for example, by which the necessity of this early sowing could be obviated, would be of great advantage.

Wheat sown early is more likely to have passed beyond injury from the hot, damp, steaming weather, which occurs in July and occasions rust. Query; whether late sown wheat is not likely to pass beyond that season before it gets into a condition to be injured, which is while it is in the milk.

Late sowing of wheat, as in some cases the last of May and the first of June, it is stated, has carried the season of flowering beyond the time of the wheat insect, and the crop has been saved.

8. The diseases or accidents if any, whether affected by rust, smut, or mildew, and any circumstances of weather, situation, or particular condition of the plant connected or contemporaneous with such occurrence. The situation or exposure of any blighted field, whether high and airy, or low, damp, and confined.

9. Whether or not affected by the vicinity of barberry bushes.

10. Whether winter killed or not; under what circumstances as it regards the forwardness or lateness of the plant; and how affected by the snow.

11. Whether attacked by the Hessian fly or other insects; and preventives, if any.

Wheat is, in many parts of the country, subject to injury from an insect or worm, whose appearance is comparatively recent; and whose habits are not well ascertained. He is making dreadful havoc in the wheat regions, producing in many cases an entire destruction of extensive fields of the most promising appearance; and has advanced at the rate of about forty miles a year. The same insect, it is believed, though the identity is not perfectly ascertained, has attacked barley, rye, and oats with alarming success. The cultivation of barley has on this account been abandoned in some parts of the State; and so has the cultivation of wheat in what have heretofore been deemed some of the most productive wheat regions in New York.

Inquiries and experiments on this subject are of immense importance. A perfect preventive or security would be worth millions to the country.

12. Remedies or protection against blight, or other accident.

13. The extirpation of weeds particularly inju-

rious to the wheat crop, such as tares, cockle, chess, garlic, and the Canada thistle; and any machinery by which the grain may be cleansed of "foul stuff."

14. The experience of farmers in the cultivation of wheat crops successively on the same land, and in sowing clover with the wheat with a view to ploughing it in as a manure for a succeeding crop; and whether customarily ploughed in with the stubble, or depastured, or mowed for one or more years.

15. The general subject of sowing grass with grain; and the value in such case of a stubble crop for winter fodder.

16. Harvesting.

Time and state of cutting, and whether early or late cutting be preferable; the time, in the opinion of some persons, making a material difference in the amount and value of the crop.

Modes of harvesting, reaping or cradling, and cost by day or piece work, average amount of a day's work.

17. Threshing and cleaning.

Threshing machines. Winnowing machines.

18. Manufacture of flour. Various qualities. Number of bushels required for a barrel. Miller's charges and profits.

19. Construction of mills and flouring machinery. Water, steam, and wind power. Domestic mills.

20. Value and use of bran.

21. Value and uses of wheat straw.

22. Value of a wheat crop compared with other crops. Average yield.

23. Capacity of the state to furnish its own wheat bread.

24. Experiments and observations in regard to this crop. Causes of its general failure.

24. Some general estimate of the quantity and cost of imported flour consumed in any village, town, or county.

Indian Corn.

1. Kinds; gourd seed; white soft corn; sweet corn; flint corn.

2. Varieties of flint corn; white, yellow; weight per bushel; comparative amount of cob and grain in different varieties.

3. Soils most suitable; preparation of land; crop, if any, which it may best succeed. Fall or spring ploughing; how often may it be repeated on the same land.

4. Manuring, kinds of manure most suitable, quantity to the acre, how distributed—in hills, drills, or spread—applied green or rotted.

Lime; its value to corn—how applied.

Gypsum; its value to corn—how applied.

Ashes; its value to corn—how applied; crude or spent.

5. Seed—how selected; effects of selecting in increasing the crop, how saved, steeped or sowed dry, various steeps, copperas water, lye, rolling in tar, coating with gypsum or ashes, quantity of seed.

6. Time of planting; modes of planting—in hills or drills; distance of plants; protection against vermin or birds.

7. Cultivation. Weeding; ploughing or harrowing among corn; use of a cultivator; number of hoeings; hilling or earthing up. Topping; suckering; stripping; with the effects upon the crop.

8. Value of the corn stalks and leaves when taken green; and mode of curing.

9. Alternate rows of corn and potatoes. Plant-

ing pumpkins or turnips among corn. Sowing grain among corn for a succeeding crop.

10. Harvesting. Gathering by the ear; or cutting up and stacking in the field.

11 Preservation of the grain. Construction of granaries.

12. Preservation and comparative value of the stover or dried fodder.

13. Machines for shelling.

14. Average yield per acre; value of the crop; cost of cultivation from beginning to readiness for the mill. Kiln-drying.

15. Value and uses } for Dairy Animals.
of Indian Corn

" " " for fattening stock.

" " " for swine.

" " " for horses.

" " " for distillation.

" " " for extraction of oil.

Having thus given a sketch of the manner in which it is proposed to conduct the inquiries on particular subjects, in respect to which it would confer an obligation on me to have your suggestions, or those of any other experienced farmer, I proceed to other great topics, to be embraced by the survey.

XII. Manures.

1. Animal Manures.

Animal excrements; varieties; comparative value; preparations; uses.

Decayed bodies. Refuse of slaughter houses.

Bone; horn; hair; feathers; wool.

Fish; fish oil; gurry and blubber; soap suds.

2. Mineral Manures.

Lime in various forms and compounds.

Salt; marine shells; gypsum; clay; sand; marl.

Dock mud; ashes of mineral coal; burnt clay.

3. Vegetable Manures.

Ashes of wood and peat; soot; Tanner's waste; straw.

Leaves; sea weeds; rape dust; street manure.

Green dressings, ploughed in; buck wheat; clover.

4. Artificial Manures. Composts.

5. Modes of applying Manure.

Mixed or clear; solid or liquid; in drill or broadcast; in fresh or fermented and decayed state;—at what season of the year or crop; annually, or how often; in what quantity.

Use and application to permanent pastures and mowing lands.

6. Manure houses or cellars; vaults for the preservation of urine; and provisions for forming compost manures.

Machines for the application of liquid manures.

XIII. Live Stock.

1. Black cattle; horses; sheep; swine; poultry.

2. Comparative value of different breeds of animals for stall, work, and dairy; and notices of herds or individuals of improved breeds, with places where found.

3. Animals known among us. Native; Hereford; Black Spanish; Devon; Holderness; Yorkshire; Alderney; Ayrshire.

Improved Durham Short Horns.

4. The subject of breeding.

XIV. Animals for Labour.

Horses and oxen. Comparative value. Mules. Cost of keep; harness; shoeing; deterioration or improvement.

XV. Animals for Beef.

1. Sex most eligible.

2. How reared; as calves, how fed; how long with the cow; how managed the first winter.

3. What age at maturity. Age best for fattening.

4. If pastured—average number of acres to an animal.

5. If soiled; how managed and fed.

6. If stalled on dry feed, how fed; how long kept; amount of hay consumed per day; of meal; of vegetables; kinds of meal; kinds of vegetables; how prepared; meal ground with or without cob; mixed or unmixed; wet or dry; cooked or raw.

7. Use of flaxseed; oil; and oil cake in fattening.

8. Gain per day; per month.

9. Machines for cutting and steaming food.

XVI. Markets; Returns of Brighton and Danvers Markets.

1. Animals—how sold—on the hoof; or by weight after slaughter. If by weight, how determined; customs of butchers; what parts weighed; what considered as perquisites. Liabilities to error or fraud, if any; customs in other markets.

2. Different parts—how disposed of; relative value.

3. Modes of curing, packing, inspecting beef, pork, hams, &c., &c.

4. Drift of animals; customs of Drovers; expences; loss in weight by travelling.

XVII. Animals for the Dairy.

1. Choice of breeds. Examples and history of cows of extraordinary product.

2. Size and colour as affecting produce. Continuance in milking. Effects of early coming in. Disposition of the calf. Times of milking.

3. Average yield of a good cow in milk; in butter; in cheese.

4. Trials of milk as to quantity of cream; of butter; and of cheese, per gallon.

5. Modes of feeding; vegetables; grain; or meal; how given or prepared; quantity.

XVIII. Dairy Produce.

1. Butter; modes of making and preserving.

2. Cheese; modes of making and preserving.

3. Comparative profits of making butter and cheese.

4. Use of skim milk, butter-milk, and whey.

5. Advantages, if any, of giving it to the cow.

6. Value of dairy refuse for swine.

7. What proportion between number of cows kept, and number of swine kept.

8. Steaming; heating; freezing milk, with comparative advantages of each method for raising cream.

9. Effects of different kinds of salt upon butter. Use of sugar and saltpetre for butter. Colouring matter for cheese.

10. Protection from vermin.

11. Grasses for dairy purposes.

12. Churns; presses; spring houses; pans.

XIX. Swine.

1. Breeds. Maturity, and age for fattening. Average weight when fattened.

2. Mode of raising; in sty or at large; pasturing or soiling on clover.

3. Fattening; value of vegetables; value of meal; preparation of food; raw; steamed; boiled;

fermented. Gain per day, per month. Season best for fattening. Time of killing.

4. Assortment of parts; packing of pork; curing of hams; making of sausages, &c., &c.

5. Trial of different kinds of food. Corn; rye; barley; oats; broom corn; peas; apples; potatoes, &c., &c.

XX. Sheep.

1. Breeds; crosses.

2. Yield in wool; time of shearing; mode of washing and cleansing; mode of doing up the fleece.

3. Yield in mutton. Age for fattening; mode of fattening. Comparative value of different kinds of feed. Vegetables; corn; oats; oil-cake, &c., &c.

4. General management; choice of buck; time of lambing; mode of winter keeping.

5. History of particular flocks.

6. Sheep houses; sheep racks.

XXI. Horses. Mules.

How raised; how kept; shoeing; general management; comparative value for labour.

XXII. Animals kept for Breeding.

Bull; stallion; ram; boar.

Valuable points; defects; general management.

XXIII. Feeding of Animals.

1. Pasturage; winter keeping.

2. Soiling of animals; articles to be cultivated for this purpose.

3. Cutting feed; steaming or cooking; green vegetable; feed; dry feed.

XXIV. Poultry.

Kinds; management; comparative value.

XXV. Diseases of domestic animals.

Of horses; cattle; sheep; swine; poultry; and remedies.

XXVI. Farm Buildings.

1. Barns; stables; styes; poultry houses.

2. Modes of fastening and harnessing cattle. stalls; mangers; stanchions; ropes; chains; bows.

3. Yokes and harnesses.

4. Dwelling houses, with comparative cost of stone, brick, and wood. Improvements in apparatus for cooking; and for warming houses.

XXVII. Bees.

Cultivation of feed for bees. Construction of hives. Protection against the bee moth.

XXVIII. Orchards. Gardens.

1. Varieties of fruits, with methods of propagation and selection.

2. Varieties of esculent vegetables, with methods of cultivation.

XXIX. Diseases of trees and plants.

XXX. Injurious insects and vermin.

Borer. Canker worms. Caterpillars. Potato worms. Tobacco worms. Slugs. Bee moth. Turnip fly. Crows and black birds. Woodchucks. Foxes. Field mice. Rats.

XXXI. Fences.

Stone walls. Rail fences. Live hedges. Hedge and ditch. Raised banks, &c.

XXXII. Forest trees.

1. For timber. For fuel.

2. Modes of raising. Care of forests. Time and modes of cutting.

3. Nurseries of fruit and forest trees.

4. Plants for hedges and fences.

XXXIII. General improvements.

Clearing wild land.

Removing stumps and stones.

Draining.

Irrigation.

Paring and burning.

Gravelling low meadows.

Improving peat meadows.

XXXIV. Great farming operations.

1. Ploughing.

2. Sowing; planting; laying down to grass.

3. Haymaking.

4. Harvesting.

5. Preserving and expending the produce.

6. Marketing.

XXXV. Examples in detail and in full of

1. General farm management.

2. Particular crops.

3. Particular improvements.

XXXVI. Labour.

1. Farm labour by the month or year.

2. " by the piece.

3. Cost of board and prices of provisions.

4. Use of spirituous liquor.

5. Laws and customs relating to labour.

Mechanical labour.

1. Blacksmith. Price per pound of iron.

" Price of horse shoeing. Ox shoeing.

2. Carpenters' work, per day.

3. Masons' work, per day.

4. Wheelwrights' work, per piece.

5. General cost of farming utensils; carriages; and equipments.

XXXVII. Farming implements, &c.

Ploughs. Harrows. Horse rakes. Cultivators and horse hoes. Threshing machines. Winnowing machines. Vegetable slicers. Hay cutters. Rollers. Drill machines. Corn planters. Corn shellers. Wheel carriages. Stump extractors, &c. &c.

XXXVIII. Condition of roads, and improvements in construction of roads, as intimately connected with the agricultural prosperity of a country.

XXXIX. Miscellaneous subjects.

1. Size of farms.

2. Farm capital.

3. Farm accounts.

4. Laws relating to agriculture.

5. Taxes and burdens upon land.

6. Agricultural pauper establishments.

7. Agricultural and manual labour schools and colleges.

8. Agricultural societies. Funds. Premiums. Operations. Cattle shows.

9. Agricultural libraries and publications.

XL. Manufactures connected with agriculture.

1. Household manufactures. Manufactures of wool, silk, flax, hemp, hair, bristles, straw, &c. &c.

2. Leather, with all its various preparations.

3. Glue. Combs. Buttons. Bonnets and hats from grass, straw, or wool. Wooden ware. Barrels. Maple sugar. Maple Molasses. Beet sugar. Potato syrup. Starch. Opium. Sunflower oil.

Indian corn oil. Linseed oil. Neat's foot oil. Wine from grapes. Wine from currants.

Cider. Perry. Beer and ale. Whiskey. Gin. Soap. Candles.

XLI. Objects of particular inquiry, with a view to agricultural improvements.

1. Improvements in live stock.
2. " in utensils and farm buildings.
3. " in new vegetables, fruits and grasses.
4. " in seed for earliness and abundant yield.
5. " in economical preparations and uses of food for man and beast.
6. " in economical uses of fuel.
7. " in economical application of human and brute labour.
8. " in application of water, steam or wind power to purposes of husbandry.
9. " in cultivation—depth of ploughing; mixing of soils; compost manures; manuring with green crops; inverting and covering the sward; drill culture; sowing broad cast; management of any particular crop, &c. &c.
10. Improvements in rotation of crops.
11. " in uses of lime; gypsum; bone dust.
12. " in application of ashes; crude or spent.
13. " in application or discovery of other manures.
14. " in construction of farm buildings.

XLII. Exports and imports of agricultural produce.

Capacity of the State to supply its own wants. General views.

XLIII. Specimens of soil to be analyzed.

Models of improved implements.

Models of improved buildings.

Sketches of improved modes of draining lands.

Collection of valuable seeds or plants.

Samples of wool, silk, and sugar.

I have thus, sir, laid before you the principal objects designed to be embraced in an agricultural survey of the state. It is not of course expected that every farmer, possibly not any single farmer, will be able to give me information on every subject here enumerated; nor will any farm or any town in the Commonwealth furnish examples of all the various crops, operations, and stocks here mentioned. But what is wanting in one, may doubtless be found in another; and as no subject is mentioned in which the agriculture of the state is not directly concerned, it is hoped that much valuable and practical information may be collected in regard to all. It will be my province to gather up the fragments that nothing be lost. I earnestly solicit, therefore, your particular aid in acquiring this information; and the communication of your knowledge or experience, either by writing, conversation, advice, or in any form in which you will please to give it. Any trouble which any gentleman may take upon himself for the purpose of procuring information shall always be most gratefully acknowledged.

My duty will require me to visit every town in the state; and my wish is to visit every principal farm in every town, the management of which promises to afford useful information. In determining what particular farms to visit, it is obvious that I must necessarily be directed by the advice or sug-

gestions of others, which I shall always be most happy to receive; but, in order to avoid all invidiousness, I beg leave to state distinctly, in the outset, that, unless prevented by extraordinary circumstances, I will visit every farmer, who will do me the kindness to invite me to his premises; and I have perfect confidence in finding oftentimes as creditable and instructive management among small farmers as among those who pursue agriculture upon an extensive scale. I therefore solicit such invitations, and will gladly avail myself of them.

I purpose to make the survey by counties, and am anxious to prosecute it with all convenient despatch. I beg the farmers to whom this circular is sent, to give it an attentive and repeated examination. The objects of the survey are most important to the farming interest. I go to seek information from practical men; and shall be happy to communicate all that I receive. I solicit the correspondence and co-operation of such men. It is reasonable to hope that the inquiries will elicit much valuable knowledge; that they will contribute to excite and strengthen a spirit of improvement in agriculture, this most honourable and useful pursuit; that they will unfold agricultural resources and capacities of which we were not fully aware; that they will strengthen those which already exist, and present new reasons for a devoted attachment to our native state; a state, which, if its soil be comparatively hard and sterile, and its climate severe, is in a high degree favourable to longevity, to strength of muscle, vigour of intellect, and moral energy; furnishes an ample reward to patient industry, temperance and frugality; and under the administration of upright magistrates, and wholesome and equal laws, which she has so long and eminently enjoyed, abounds in the elements of domestic comfort, and social improvement and prosperity. Your's, respectfully,

Boston, June, 1837.

HENRY COLMAN.

P. S. Communications and letters relating to the survey may be addressed to the subscriber at Boston. They may be forwarded by private conveyance to the Post-office in Boston, or directly by mail, if otherwise not convenient.

PORTRAIT OF A FARM SERVANT.—All this time he is learning his business, but he is learning nothing else,—he is growing up into a tall, long, smock-frocked, straw-hatted, ankle-booted fellow, with a gait as graceful as one of his own plough-bullocks. He has grown up, and gone to service; and there he is, as simple, as ignorant, and as laborious a creature as one of the waggon-horses that he drives. The mechanic sees his weekly newspaper over his pipe and pot; but the clod-hopper, the chopstick, the hawbuck, the hind, the Johnny-raw, or by whatever name, in whatever district he may be called, is every where the same: he sees no newspaper, and if he did he could not read it; and if he hears his master reading it, ten to one but he drops asleep over it. In fact, he has no interest in it. He knows there is such a place as the next town, for he goes there to the statutes and to the fair,—and he has heard of Lannon, and the French, and Bonaparte, and of late years of America, and he has some dreamy notion that he should like to go there if he could raise the wind, and thought he could find the way—and that is all that he knows of the globe and its concerns, beyond his own fields. The mechanic has his library,—and he reads, and finds that he has a mind, and a hundred tastes and pleasures that he never dreamed of before. The clod-hopper has no library, and, if he had, books, in his present state would be to him only so many things set on end upon shelves. He is as much of an animal as air and exercise, strong living and sound sleeping can make him,

and he is nothing more. Just see the daily course of his life. Harvest time is the jubilee of his year; it is a time of incessant and hurrying occupation, but that is a benefit to him; it is an excitement, and he wants exciting. It rouses him out of that beclouded and unimaginative dreamy state in which he stalks along the solitary fields, or wields the flail in the barn; it digs the drain or the ditch or plashes the fence from day to day and week to week. The energies that he has—and they are chiefly physical—are all called forth. He is in a bustle. The weather is fine and warm—his blood flows quicker. The gates are thrown open—the hay rustles in the meadow, or the golden corn stands in shock amid the stubble: the waggons are rattling along the lanes and the fields. His neighbours are called out to assist. The labourers leave everything else, and are all in the harvest field. The women leave their cottages, and are there too. Young, middle-aged, and old,—all are there—to work or to glean. The comely maiden with her rosy cheek, her beaming eyes, and fair figure, brings with her mirth and joke. The stout village matrons have each drawn a pair of footless stockings on their arms to protect them from the sun and stubble—they have pinned up their bed-gowns behind, or doffed themselves to the brown stays and linsey-woolsey petticoat, and are amongst the best hands in the field. Even the old are feebly pulling at a rake, or putting hay in wain-row, or looking on, and telling what they have done in their time. The beer-keg is in the field, and the horn often goes round. The lurch is eaten under the tree, or amongst the sheaves. In the house at noon, there is a great setting out of dinner;—beans and bacon, huge puddings and dumplings are plentiful,—it is a joyous and stirring time. There is no other season of the year in which the farm-servant enjoys himself so much as in harvest.—*Howitt's "Rural Life in England."*

ON THE LATE CROP AND THE CORN TRADE.

(FROM THE BANKER'S CIRCULAR.)

On the 18th of August last we concluded our observations on the harvest with these paragraphs:—

“With this notice we must for the present close our observations on this interesting and important subject. The only kind of grain of the growing or standing crops, in which we have been able to discover actual and unquestionable abundance is beans—together possibly with peas. None of the others will, we think, exceed an average supply, and, without a continued series of fine weather, none will come up to that point in yielding an average amount of produce of good quality. Looking at the small stocks of all kinds of corn on hand, at the variable character as to quantity of the new crops—with so small a proportion of those abundant, and at the comparatively exhausted condition of all sources for supplying food for men and cattle, we entertain a confident expectation that prices of agricultural produce will not fall materially. They probably will decline for some months after harvest, if it should prove one of so propitious a kind as is at present indicated; but, taking the average quotation of wheat at the present instant, at about 57s. the quarter, we shall be very much surprised if it be not at the least as high as that in the spring of 1833. We venture to give this opinion upon a consideration of the probable produce of the harvest, on the supposition that there will be no interruption to the fine weather, for gathering it in England and Scotland. How far this conclusion may be altered by supplies from Ireland we will endeavour hereafter to be prepared to say. Report at present speaks of abundance in that quar-

ter; but whether this have reference merely to oats, or to all kinds of grain, we have not at present the means of determining. The prices of wheat and barley cannot, we imagine, be greatly affected by importations from Ireland.

“After such a season as we experienced in this country, during the first five months of this year, we may be thankful for the present appearances of tolerable sufficiency of farm produce; abundance and excess will not under any circumstances, we think, be the character of the harvest, or of the produce of the pasture lands, in 1837.”

We retained the same impressions on the subject when we again adverted to it on the 15th of September. It must, however, now be confessed that the character of the corn market has not yet been altogether of that firm and decided description that we anticipated. It is true that the time is scarcely arrived for applying a test to the correctness of our anticipation on this subject; we spoke of the spring of 1833, and expected that prices would then range fully as high as they did in the previous months of August and September, 1837. We entertain this expectation, as far as wheat is concerned, as confidently now as we did then, but we must at the same time admit, that if we had been asked in the autumn to state our opinion whether the average price of that grain would be likely to decline 3s. or 4s. per quarter, and remain at that lower level for so long a period as the quotations have exhibited—even into the month of February—we should at once have answered, “there is no ground to be observed for such a decline in prices and for so protracted a period of stagnation in the markets.” Our present impressions on the subject remaining substantially the same as those of August and September last, we may attempt in a few words to explain the reason why they have not been answered by a direct correspondence in the index of prices. We still think that the estimate of the probable quantity and supply was made with as much accuracy and fidelity as is to be reasonably expected in dealing with a subject so extensive and various in its manifestations; then how comes it that the state of prices has not precisely borne it out?

Of all changeable and uncertain mercantile pursuits the corn trade was for many years the speculative. This, its peculiar and distinguishing characteristic, has been gradually wearing away ever since the termination of the war, and more quickly of late years than previous to the year 1832. In London the corn trade has for a considerable period assumed almost exclusively the character of a commission business. The last extensive speculation in corn that we recollect, was that in which it was said Mr. Tooke was so deeply implicated, and in which one or two eminent houses on the Corn Exchange participated. For a term of nearly seven years there has been comparatively little of this speculative business carried on in London, and that which has prevailed, was conducted more by the corn merchants of Liverpool, Wakefield, Leeds, Newcastle, Leith, and Glasgow, than those of London, Bristol, and Plymouth. With none, however, has speculation been carried to an extent which can be compared to the exhibitions of the same spirit during the war, and, in a limited degree, for a considerable term of years subsequent to its close; if we were called upon to mention that trade in which the change has been the greatest and most remarkable—a change from active bold speculation, as a general habit to a cautious determination to wait for the natural and gradual development of supply and demand—we should without hesitation name the corn trade. There now

appears but little disposition to anticipate or stimulate the markets, and prices are left to be acted upon by the natural unforced operation of supply and demand according to their direct weekly influence. There probably never was a period at this season of the year when less capital was invested by the merchants in corn stored in granaries, barges, and ships, than at this moment.

In this state of things the wheat market has been left to be acted upon almost entirely by the farmers and the consumers. And, although there is still a great difference in the facility of intercourse and the quickness of communication and intelligence in France and Great Britain, yet they have of late evidently exhibited an approximation to the same condition in their respective corn-trades. In France there never is any deficiency of supply but what the producers first feel and render manifest; there never is abundance without their making it palpable to all observers, by pouring in quantities to the provincial markets. Hence the great difference in prices which prevails in different sections of that country; with which, it may be observed, ingenious men in London amuse themselves by making comparisons relating to the cost of flour in Mark-lane and the provincial towns of France; and hence the extraordinary and sudden changes in the value of corn which we have frequently observed taking place in that kingdom during the last three or four months of the year which succeeds the gathering of the harvest. There are some extensive corn merchants at the sea ports and in the densely peopled districts of France, but their number, and the capital and credit which they could bring to influence the markets would not stand in relative proportion equal to one-fifth of those in England. There may on the whole be more steadiness, in the prices of wheat in the former country than with us, but the changes in its value which take place after the months of February and March, are of a more sudden and violent character, locally and temporarily, than in the provincial markets of Great Britain and Ireland. These circumstances, we repeat, have hitherto marked the difference in the state of the corn trade in the two kingdoms; that difference is less at the present time than we have ever before observed it to be since we paid attention to the subject.

To this remarkable change in the most important of all our branches of commerce in raw materials, may fairly be attributed the extraordinary inactivity which has prevailed for six months in the principal corn markets of Great Britain. And we trace the fact to this special and particular source because it appears to us to have superinduced a state of things which is not quite natural under existing circumstances. We observe a general impression that the supply of wheat during the next six months is likely to be deficient, compared with the supply for the same period in the two preceding years. Under the prevalent apprehension which restrains buyers from entering upon extensive transactions, there will probably be no essential change in the character of the markets until the conviction of relative deficiency in the supply becomes general. We never knew the anxiety to ascertain this point greater than it is now, and we know persons who, after convincing themselves that there will be a material falling off in the quantity to be brought to market in the southern counties of England, have travelled purposely into the North to enable themselves to determine as to the probability of the excess in that quarter being adequate to meet the deficiency of the south. The representations which have, however,

been made to them are so contradictory as to leave their minds still in doubt.

Whether any thing that we have it in our power to communicate shall contribute to throw light upon the question of supply, we must leave to time to decide. We have made very diligent inquiries on the subject, and the result is that there will be found no compensating quantity of wheat in any quarter to set against the admitted relative deficiency which all careful inquirers have discovered in the western and southern corn producing districts of England, Scotland will furnish scarcely any for the English markets; and in the aggregate we have no doubt that more will be sent from England to meet the consumption of that country, between this date and the 1st of September, than will be shipped from Scotland to the southern markets during the same period. We believe that the balance will be considerably against England. If this impression be correct, a very large source of anticipated supplies, which the London dealers and south-country millers have in some measure relied upon in their calculations as to future prices, is at once cut off.

Some merchants are of opinion that Yorkshire will have a superabundance of wheat to send to distant markets. There appear to us no valid grounds for this conclusion; that county was almost entirely drained of its accumulated stock of old corn about fourteen months ago, for the supply of Scotland and other parts; and the quantity remaining on hand at the harvest of 1837 was less than it had been at the same period in many previous years. The consumption has not fallen off in the same degree as in Manchester, Birmingham, and the circumjacent districts; the people of the West Riding have been more fully employed than in Warwickshire, Staffordshire, Cheshire, and Lancashire; and we have no doubt that the wants of the population supplied principally from the two great corn-marts of Leeds and Wakefield, will be quite sufficient to take off the usual quantities collected from the East and North Riding of Yorkshire and North Lincolnshire; and consequently that no material supply can be had from those districts without a considerable advance in the price.

Then as to Ireland: although we believe the harvest was on the whole a more productive one than that of England or Scotland, the quantity of wheat grown was not unusually large, and a much greater proportion of it has been or will be consumed at home. The Irish people are annually becoming greater consumers of their farm produce, and especially wheat. From the testimony of men best informed on the subject, who have made it their particular object of personal investigation, we conclude that less wheat will be shipped from Ireland for British ports in the twelve months succeeding the 1st of October, 1837, than has been shipped during the same period for many years. Indeed we regard the difference, as to the quantity exported, to be hereafter ascertained, in the two cases of Scotland and Ireland, to constitute one of the most conclusive reasons that have operated on our minds in forming the opinion which we entertain in favour of a rise in the price of wheat during the ensuing spring.

These are some of the grounds on which we venture to express an opinion that the markets for wheat will soon assume a more animated aspect than they have ever done since the gathering in of the last harvest. The decline, however, that has taken place in the value of that important commodity since we wrote upon the subject in August and September last, is not, on the whole, we believe more than from

five to seven per cent; and recollecting that it is that period of the year when the small farmers are constrained to bring their produce to market, the comparative insignificance of the reduction in price must be regarded as no unimportant item in considering the probable future state of the trade. We are satisfied that the stock on hand is on the whole less than it was at the same date in 1837, and most materially inferior both in quantity and quality to that of the two preceding years. The stock too is held in a greater proportion by the growers, which is always a circumstance more likely to lead to sudden transitions in the spring and summer months than when large stocks are stored in granaries by individual speculators at the same seasons of the year.

We shall take an early opportunity of submitting our impressions respecting the probable state of the trade in other descriptions of grain. They are not now, as they sometimes have been, so much acted upon by similar influences; and for that reason we have confined our observations on the present occasion to the wheat trade alone.

We can discover nothing in the state of the markets for any description of farm produce which is calculated to diminish the satisfaction that we at first expressed at the improved condition of the agricultural population of this kingdom.

MONTHLY REPORT OF THE WOOLLEN TRADE FOR JANUARY.

LEEDS, Feb. 1.—Our readers will not expect, we are sure, that our record of the transactions of January should be one of extensive transactions in every department of the trade; still we have to speak of an amount of business, on the whole much more considerable than was anticipated, and which has not a little surprised many, even of the most sanguine and far-seeing. During this month the stock of bulk cloth in the Halls has been rapidly diminished, the merchants having bought freely, in anticipation of a continued rise in the price of wool. In the warehouses, transactions have not been on a corresponding scale. A fair business has unquestionably been done in finished goods for the month of January, but it is yet quite clear that merchants hold heavier stocks than they did in December. The home market and the United States have again been the destination of the finished goods sold in the past month—the quantity sent to the latter being perhaps on the increase.

Of the state of stocks, we have little to say in addition to the above. The quantity of goods held by the manufacturers, is, we are very confident, small; whilst that held by the merchants, though increasing, as we have above observed, is far from being excessive, and will not be more than sufficient for a moderate spring demand. Of goods in preparation the quantity is augmenting; at least we infer as much from the fact that the woollen mills in the neighbouring villages are now working nearly full time; not a few of them being indeed fully occupied. The prices of bales and finished goods have undergone little alteration, saving that the general demand in the Halls has enabled the manufacturers to wait for their customers there, instead of forcing sales, as they were compelled to do in November and December, at a serious sacrifice. Whilst, therefore, there has been much less bulk cloth sold at job prices during January, than in the two preceding months, the prices of such as have been sold in the regular way have not varied much, though the variation has undoubtedly been on the side of advance. The position of the smaller manufacturers has become more safe and easy; a greater

equality of prices, as well as a more general profit on transactions, has of course followed.

The change in the price of the raw material will require more minute observation. It will be no news to any one—manufacturer or stapler—that the aspect of the wool market underwent a striking change in January. The price of wool had felt the influence of reviving prosperity, so early as September last, and comparing the scale of December with that of July, there was, as we observed in our last report, a decided advance; certainly not less than ten per cent. This was no more than we anticipated. During January the price has again risen, and in such a manner as to indicate that with any large addition to manufacturing operations, it will still advance, and perhaps with some rapidity. As to the precise amount of the rise, that is of little consequence. In the view we are about to take of the subject, we shall confine our observations to the inquiry, what has caused the rise; what are the probabilities of further advance; and what results may be expected, affecting the interests of the manufacturer and the merchant?

The advance in wool, up to December, was, we apprehend, the natural consequence of restored confidence; or, more properly speaking, of a reviving demand. Wool, like all other commodities, had fallen below its natural level, and it was with the change of circumstances, coming back to it. Apart from any special causes of advance, it was reasonable to expect it still to progress with the gradually increasing activity of manufacturing operations, until it had reached that point which the ultimate demand for woollen goods, or the comparative cheapness of other fabrics, would have fixed as the maximum. But in addition to this constantly operating cause of advance, the price of wool was affected in January by some special circumstances. It was known that large purchases of stuff goods had been made, many of them for America: the farmers held their clip of 1837 very tenaciously, and getting fair prices for all other kinds of produce, were under no necessity to part with their wool; the whole quantity of foreign wool imported since the clip was very considerably less than in 1836, and the severity of the frost warranted the belief that importations would be small for some time. In these circumstances, it is not surprising that wool rose at the recent sales;—whether the rise then justifies the sanguine expectations of the growers and dealers, and the fears of the manufacturers and merchants, is another matter; and as speculation is rife on the subject, we may be allowed to give an opinion, premising that we offer it as an opinion merely; and those who make it their own, if any should, need not blame us if they act on it and find it erroneous.

We are of opinion, then, that the price of wool will with the return of the average activity of the worsted and woollen trades, continue to advance until it approximates pretty closely to the average of 1833 to 1837. Our reasons for holding this opinion lie in a nut shell. Our readers are reminded that the average of 1826 and 1831 as compared with 1832 and 1837, shows that a very considerable advance was realised on the price of wool during the latter period. That advance we then thought, and our opinion is unchanged, was attributable to the simple fact, that while the improvement in machinery was continually decreasing the cost of all processes of manufacture, and by necessary consequence lowering the price of finished fabrics, and enlarging the sale of them, it was increasing the intensity of the demand for the raw material, and of course raising its price. The mere increase of demand for the raw material would not have had any permanent effect on prices, provided that raw material was one admitting of indefinite, or even very extended increase of production. A temporary rise of price would have followed an increase of the demand, because that rise would have given way again under the increase of production stimulated by it. But the increase of demand for a raw material, the production of which is limited by some peculiar circumstances, will be accompanied by a rise of price to which the limit will be, only the power of the consumer, or the comparative cheapness of other fabrics.—Such is the

case, we think, with respect to wool. The production of it must, to a great extent, be regulated by the demand for mutton. The highest attainable price for wool would not warrant the farmer in breeding more sheep than will suffice to stock his farm, and to meet the demand for food at a remunerating price. It is true that our Australian Colonies offer an unbounded field for the cultivation of sheep and wool, but the production there must be governed by some defined proportion of sheep to the population, both as it respects the number which can be properly looked after, and as it respects the quantity of mutton in demand. Beyond this limit, wool cannot be cultivated unless some one should discover a mode of planting and growing it in the earth—a climax of agricultural skill which we suppose will not be attained during the present century at least.

We think we have assigned sufficient proofs of our opinion, and as improvements in machinery are constantly taking place, still further simplifying the processes of manufacture, and reducing the cost, it is impossible to say how much more intense the demand for the raw material may become. It will assist our readers to form a more correct idea on the subject to state, that, according to unquestionable authority and data, the operatives of Bradford and its immediate neighbourhood work up into stuffs as much wool in one year as could have been wrought up by 400,000 persons, (men, women, and children) in the same period, if the processes which were in use before Watt and Arkwright commenced their improvements, were still followed. It requires but a moment's reflection to perceive to what an enormous extent the reduced cost of manufacturing must have increased the demand for the raw material, and that, consequently, the apparently anomalous and contradictory circumstances would be simultaneous, and indeed cause and effect—a decreasing price of finished goods, and an increasing price of the raw material.

We draw this general conclusion—that wool will again rise, though how much and by what steps we pretend not to say. We may guess, as our Transatlantic brethren say, a little about the matter. We have already seen how buoyant wool is. Let us imagine a good home trade for the spring (no very improbable thing) and a fair demand for the fall trade of the United States, then what price will wool bear at the clip? How much under the quotations of 1835 and 1836 will be those of June and July, 1838? Our readers will form, no doubt, various conjectures; we give no opinion; but we will offer a word of advice to the manufacturers, which, from some little experience we have had in similar circumstances to those in which they will be placed by a further rise in the price of wool, we consider ourselves justified in thinking are not altogether worthless.

During the rise the manufacturer will find no difficulty in making a fair profit. But at the ultimate limit, or rather at that point of the price at which woollens come into competition as to comparative usefulness and cheapness with other fabrics, there will always be danger of re-action in the demand. At that point too, the risk is considerable of fluctuation in the price of wool, from the oscillation in the demand for worsted fabrics, caused by changes in fashion. The manufacturers have, or ought to have, a vivid recollection of the effect of running up the price of coarse woollens in 1834 and 1836; and they may depend upon it, that whenever the same description of goods attains the same price again, the consumers will begin to reject them, and then another loss on stock will follow, as ruinous as that of the spring of 1834. Their policy is clearly, to keep light stocks. They cannot regulate the price of wool: that must be governed by the whole demand for it, as compared with the supply; but they may guard against heavy suffering from fluctuating or falling prices. Let them never forget that when the price of goods is regulated by the intensity of the demand, and not by the mere cost of production, violent and sudden changes are always to be apprehended; and that whilst their profit on manufacturing must on the average be only the bare remuneration of the capital and labour they employ, that profit will not bear the frequent and serious drain arising from large variations in the value of the raw material.

BIRMINGHAM, 2ND MONTH, 1ST.

We have delayed issuing our annual circular beyond the usual time for the purpose of completing the annexed statistical tables from some recent returns, and with the expectation that it would enable us to inform our friends the state of the trade on the breaking up of the frost.

During the past year the variation in the price of wheat was less than in the one preceding. The sanguine expectations entertained last winter of a considerable advance in the spring were completely disappointed, by the subsequent commercial distress and pressure on the money market; and although the present price of wheat is, we believe, a fairly remunerating one to the grower when his crop averages that of usual seasons, yet it is below the recent quotations from New York and other American cities, which has generally been the case for the last three years. The contradictory reports we continue to receive of the yield of the wheat crop have not at all weakened the opinion we gave soon after harvest, that in this part of the country it was deficient on the very early and also on the latest soils, but on others mostly good both in produce of straw and corn per acre. The unsettled weather that prevailed during great part of last harvest prevented the farmers from securing much of their wheat in a sufficiently dry state to bring early to market, a circumstance that is by some considered sufficient to account for the small quantity they have yet brought forward. The frost has so much improved the condition of the new wheat, that we now hear less complaints on this head by our millers, and the supply has been sufficiently large by land to prevent any serious inconvenience from the obstruction of the canal communication, by the severity of the weather. Our future prices, however, will probably be entirely governed by the disposition on the part of the growers as there is little stock of free wheat in other hands. The arrivals from Ireland have by no means equalled the expectations raised by the favourable reports at the time of harvest of the crop in that country, and from the late advance in their prices and inadequate supplies in proportion to the demand, it now appears likely that the surplus in the West and South where the crop is said to be very good, will not be much more than sufficient for the North and East, where it is deficient in yield. We believe the foreign wheat which was liberated in the Autumn has mostly gone into consumption, and that the stock of free on the leading markets was seldom more reduced than it is at present. The quantity of Bonded as will be seen by the other side is small, and appears likely to be less in the Spring than for some years past, having been further reduced since the commencement of the year by exportation to the United States, British North America, &c. Our present prices of wheat are—English red, 6s. 9d. to 7s. 9d.; old, 7s. 2d. to 7s. 10d.; new and old white, 7s. 6d. to 8s. per 62 lbs. here; Irish red, 6s. 6d. to 6s. 9d. per 60lbs. at Gloucester.

From the badness of trade and inferior quality of the barley (but few of the stained samples having grown well) we think much less malt than usual has yet been made, and the prices even of good malting samples have receded since harvest about 4s. per qr., notwithstanding very light distant supplies; the arrivals into Gloucester from 10th month 1, 1837, to 2d month 1, 1838, were only 5,571 qrs., against 37,033 qrs. in corresponding months last Winter. Some of the Irish gives satisfaction to our maltsters and has realized as high as 34s. per imperial qr. delivered here, whilst that which grows indifferently sold at 27s. to 30s.; English stained, 30s. to 32s.; bright, 34s. to 35s.; superfine, 36s. to 37s. Grinding qualities have been nearly stationary for several months, the supply having about kept pace with the demand. On the spot it is worth 25s. to 27s. per 392lbs., for forward delivery sales are making 1s. to 2s. per qr. less.

Our supplies of oats from Ireland into Gloucester have been larger since harvest than in any season subsequent to the opening of the Gloucester and Berkley ship canal, yet few were stored; the quality of the imports proving very generally very fine, they have sold to go further into the interior, and in greater quantities

than in any former year. Previous to the frost heavy qualities were disposed of as low as 19s. per 312 lbs. at Gloucester, and offered to arrive at 18s. 3d. to 18s. 6d. Such are now worth 19s. 6d. to 21s., and no sellers for forward delivery at lower rates. Some few 36 to 38lb. parcels have come to hand from Waterford and Wexford, these are difficult to quit at 18s. 6d. to 19s. 0d. per 312 lbs. in Gloucester.

The bean crop is larger than for some years past, the yield having proved greater than was expected. They have received since the commencement of last month 2s. to 3s. per qr. on both old and new—the former have latterly attracted the attention of speculators, and are now in good demand, and equal to 13s. to 13s. 6d. per 196 lbs. here. Old English find buyers slowly at 15s. 6d. to 16s. 6d., whilst foreign of all descriptions are unsaleable.

Peas, both white and grey, except prime boilers, are a complete drug, and can only be disposed of in retail parcels, prices are consequently altogether nominal. Comparatively few have been wanted for feeding on account of the price of potatoes and the scarcity of pigs. A great part of the turnips, &c. are now supposed to be destroyed by the frost, which may yet cause some demand for peas, and other articles for cattle food.

Irish fourths flour sells readily at 23s. to 24s. per 286 lbs. at Gloucester, but we expect the demand will soon cease.

Below are the imports into Gloucester since the opening of the Gloucester and Berkeley canal, from which it will be seen that the difference between 1836 and 1837 is material in wheat as well as barley.

JOSEPH AND CHARLES STURGE,
Corn-Farmers.

The quantity of Corn, Meal, and Flour imported into Great Britain from Ireland, in the years 1826 to 1837.

WHEAT.	OATS.	BARLEY.	BEANS.	PEAS.	RYE.	MALT.	INDIAN CORN.	OATMEAL.	W. FLOUR.	SC. CWT.	INDIAN CORN MEAL.	POL-LARD.
Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Cwt.
886	1798986	64854	7190	1452	76	1202	1946002	1946002	255240	183133	160	1664
897	468820	1965336	84204	7068	4826	1424	853	424749	626268	183133		
898	474984	1805336	84204	7068	4826	1424	853	424749	626268	183133		
899	340084	1417729	97140	10444	4435	568	2011	30	402127	626268		
900	337641	1298456	189095	19053	2520	414	10858	501	561371	627265		
901	407714	1298456	189095	19053	2520	414	10858	501	561371	524318	210	
902	559740	1298456	189095	19053	2520	414	10858	501	561371	831434	522	
903	541475	1353537	107697	19113	2645	166	7017	117	1059567	1059567		
904	4692229	1297598	217854	18771	2176	982	3865	772994	1110463	1110463		
905	4692229	1297598	217854	18771	2176	982	3865	772994	1110463	1110463		
906	249360	1627324	175341	16890	2900	470	10261	665006	1124343	1124343		
907	249360	1627324	175341	16890	2900	470	10261	665006	1124343	1124343		
908	252000	1634000	187000	25000	2900	4700		1004000	953000	953000		

Corn, Grain, Meal, and Flour, entered for Home Consumption in 1833, 1834, 1835, 1836, and 1837.

WHEAT.	BARLEY.	OATS.	RYE.	PEAS.	BEANS.	MAIZE.	BRANK.	FLOUR.	TOTAL.
Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
1833	60980	9	9753	4	0	18054	3	6025	2
1834	45792	6	11031	3	21	757561	5	43423	1
1835	45326	6	1175907	1	21	757561	1	63555	1
1836	32968	6	6175907	1	21	757561	1	63555	1
1837	19554	0	97183	6	18	079089	7	57978	1
1838	232793	7	45571	6	332612	319574	6	109592	7
1839	232793	7	45571	6	332612	319574	6	109592	7
1840	232793	7	45571	6	332612	319574	6	109592	7
1841	232793	7	45571	6	332612	319574	6	109592	7
1842	232793	7	45571	6	332612	319574	6	109592	7
1843	232793	7	45571	6	332612	319574	6	109592	7
1844	232793	7	45571	6	332612	319574	6	109592	7
1845	232793	7	45571	6	332612	319574	6	109592	7
1846	232793	7	45571	6	332612	319574	6	109592	7
1847	232793	7	45571	6	332612	319574	6	109592	7
1848	232793	7	45571	6	332612	319574	6	109592	7
1849	232793	7	45571	6	332612	319574	6	109592	7
1850	232793	7	45571	6	332612	319574	6	109592	7
1851	232793	7	45571	6	332612	319574	6	109592	7
1852	232793	7	45571	6	332612	319574	6	109592	7
1853	232793	7	45571	6	332612	319574	6	109592	7
1854	232793	7	45571	6	332612	319574	6	109592	7
1855	232793	7	45571	6	332612	319574	6	109592	7
1856	232793	7	45571	6	332612	319574	6	109592	7
1857	232793	7	45571	6	332612	319574	6	109592	7
1858	232793	7	45571	6	332612	319574	6	109592	7
1859	232793	7	45571	6	332612	319574	6	109592	7
1860	232793	7	45571	6	332612	319574	6	109592	7
1861	232793	7	45571	6	332612	319574	6	109592	7
1862	232793	7	45571	6	332612	319574	6	109592	7
1863	232793	7	45571	6	332612	319574	6	109592	7
1864	232793	7	45571	6	332612	319574	6	109592	7
1865	232793	7	45571	6	332612	319574	6	109592	7
1866	232793	7	45571	6	332612	319574	6	109592	7
1867	232793	7	45571	6	332612	319574	6	109592	7
1868	232793	7	45571	6	332612	319574	6	109592	7
1869	232793	7	45571	6	332612	319574	6	109592	7
1870	232793	7	45571	6	332612	319574	6	109592	7
1871	232793	7	45571	6	332612	319574	6	109592	7
1872	232793	7	45571	6	332612	319574	6	109592	7
1873	232793	7	45571	6	332612	319574	6	109592	7
1874	232793	7	45571	6	332612	319574	6	109592	7
1875	232793	7	45571	6	332612	319574	6	109592	7
1876	232793	7	45571	6	332612	319574	6	109592	7
1877	232793	7	45571	6	332612	319574	6	109592	7
1878	232793	7	45571	6	332612	319574	6	109592	7
1879	232793	7	45571	6	332612	319574	6	109592	7
1880	232793	7	45571	6	332612	319574	6	109592	7
1881	232793	7	45571	6	332612	319574	6	109592	7
1882	232793	7	45571	6	332612	319574	6	109592	7
1883	232793	7	45571	6	332612	319574	6	109592	7
1884	232793	7	45571	6	332612	319574	6	109592	7
1885	232793	7	45571	6	332612	319574	6	109592	7
1886	232793	7	45571	6	332612	319574	6	109592	7
1887	232793	7	45571	6	332612	319574	6	109592	7
1888	232793	7	45571	6	332612	319574	6	109592	7
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1896	232793	7	45571	6	332612	319574	6	109592	7
1897	232793	7	45571	6	332612	319574	6	109592	7
1898	232793	7	45571	6	332612	319574	6	109592	7
1899	232793	7	45571	6	332612	319574	6	109592	7
1900	232793	7	45571	6	332612	319574	6	109592	7
1901	232793	7	45571	6	332612	319574	6	109592	7
1902	232793	7	45571	6	332612	319574	6	109592	7
1903	232793	7	45571	6	332612	319574	6	109592	7
1904	232793	7	45571	6	332612	319574	6	109592	7
1905	232793	7	45571	6	332612	319574	6	109592	7
1906	232793	7	45571	6	332612	319574	6	109592	7
1907	232793	7	45571	6	332612	319574	6	109592	7
1908	232793	7	45571	6	332612	319574	6	109592	7
1909	232793	7	45571	6	332612	319574	6	109592	7
1910	232793	7	45571	6	332612	319574	6	109592	7
1911	232793	7	45571	6	332612	319574	6	109592	7
1912	232793	7	45571	6	332612	319574	6	109592	7
1913	232793	7	45571	6	332612	319574	6	109592	7
1914	232793	7	45571	6	332612	319574	6	109592	7
1915	232793	7	45571	6	332612	319574	6	109592	7
1916	232793	7	45571	6	332612	319574	6	109592	7
1917	232793	7	45571	6	332612	319574	6	109592	7
1918	232793	7	45571	6	332612	319574	6	109592	7
1919	232793	7	45571	6	332612	319574	6	109592	7
1920	232793	7	45571	6	332612	319574	6	109592	7
1921	232793	7	45571	6	332612	319574	6	109592	7
1922	232793	7	45571	6	332612	319574	6	109592	7
1923	232793	7	45571	6	332612	319574	6	109592	7
1924	232793	7	45571	6	332612	319574	6	109592	7
1925	232793	7	45571	6	332612	319574	6	109592	7
1926	232793	7	45571	6	332612	319574	6	109592	7
1927	232793	7	45571	6	332612	319574	6	109592	7
1928	232793	7	45571	6	332612	319574	6	109592	7
1929	232793	7	45571	6	332612	319574	6	109592	7
1930	232793	7	45571	6	332612	319574	6	109592	7
1931	232793	7	45571	6	332612	319574	6	109592	7
1932	232793	7	45571	6	332612	319574	6	109592	7
1933	232793	7	45571	6	332612	319574	6	109592	7
1934	232793	7	45571	6	332612	319574	6	109592	7
1935	232793	7	45571	6	332612	319574	6	109592	7
1936	232793	7	45571	6	332612	319574	6	109592	7
1937	232793	7	45571	6	332612	319574	6	109592	7
1938	232793	7	45571	6	332612	319574	6	109592	7
1939	232793	7	45571	6	332612	319574	6	109592	7
1940	232793	7	45571	6	332612	319574	6	109592	7
1941	232793	7	45571	6	332612	319574	6	109592	7
1942	232793	7	45571	6	332612	319574	6	109592	

An Account of the Amount of Corn, Grain, and Flour, imported into the United Kingdom in each year, from 1st Jan. 1826 to 1837.

Corn, Meal, and Flour imported, entered for home consumption, and duty paid since 1823 inclusive, the first year it was levied on Corn.

Year.	Qrs. Imported.		Qrs. for Home Cons.		Duty Paid.	
	£ s. d.		£ s. d.		£ s. d.	
1823	53866		12362		10310	4 3
1824	612594		677195		176383	15 6
1825	1060837		834425		304919	15 5
1826	2252271		2098944		442755	11 9
1827	2622283		2998866		792934	15 8
1828	1294378		1237494		196834	0 2
1829	2694132		1959355		907320	5 5
1830	2691884		2649348		790877	0 0
1831	3570569		2265392		547809	0 0
1832	668422		475680		309676	0 0
1833	481506		112408		36252	0 0
1834	560056		236902		99416	0 0
1835	321266		439988		201673	0 0
1836	643592		408217		152791	4 0
1837	1325930		842326		589200	0 0

Average price of Grain per quarter in England and Wales, for eighteen years, ending 1837.

Year.	Wheat.		Barley.		Oats.		Beans.		Peas.	
	s. d.		s. d.		s. d.		s. d.		s. d.	
1820	67	11	33	10	24	9	43	4	45	11
1821	56	2	26	0	19	6	30	11	32	9
1822	44	7	21	11	18	2	24	6	26	5
1823	53	5	31	7	22	11	33	1	35	0
1824	64	0	36	5	24	10	40	10	40	8
1825	68	7	40	1	25	8	2	10	45	5
1826	58	9	34	5	26	9	44	3	47	8
1827	56	9	36	6	27	4	47	7	47	7
1828	60	5	32	10	22	6	38	4	40	6
1829	66	3	32	6	22	9	36	8	36	8
1830	64	3	32	7	24	5	36	1	39	2
1831	66	4	38	0	25	4	39	10	41	11
1832	58	8	33	1	20	5	36	5	37	0
1833	52	11	27	6	18	5	35	1	37	0
1834	46	2	29	0	20	11	36	7	33	0
1835	39	4	29	11	22	0	30	0	30	3
1836	48	9	33	2	23	1	38	4	37	3
1837	55	10	30	4	23	1	38	7	37	9

A comparative statement of the Monthly Average price of Grain, in the years 1836 and 1837.

1st Mo.	WHEAT.		BARLEY.		OATS.	
	s. d.		s. d.		s. d.	
1836	37	7	28	4	18	11
2nd	40	6	29	0	20	2
3rd	44	7	29	8	21	3
4th	47	11	33	9	22	0
5th	49	4	32	6	23	3
6th	50	4	32	6	23	8
7th	49	10	32	2	23	8
8th	49	2	32	0	23	6
9th	48	0	36	0	23	3
10th	47	10	36	0	24	3
11th	57	3	38	11	26	9
12th	57	8	36	6	25	7

	BEANS.				PEAS.				RYE.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1st Mo..	33	9	41	7	34	0	40	6	33	0	42	0
2nd	34	5	39	8	34	5	38	1	33	7	40	7
3d	35	0	37	5	35	0	36	5	33	3	35	8
4th	36	0	37	2	36	0	36	12	37	7	35	0
5th	38	11	37	8	38	11	37	11	39	8	34	11
6th	39	11	39	3	39	11	39	8	40	8	35	0
7th	39	7	40	7	39	7	40	6	41	6	35	8
8th	40	6	40	11	40	6	39	10	35	3	37	11
9th	41	0	39	11	41	0	39	11	36	7	34	1
10th	42	2	39	4	42	2	36	4	39	4	32	1
11th	45	1	36	4	45	0	35	6	44	3	30	1
12th	44	8	36	0	44	8	34	5	42	10	29	3

Years.	WHEAT.		BARLEY.		OATS.		PEAS.		MALT.		FLOUR.		OATMEAL.		IN CORN.		BEANS.		LINSEED.		HEMP SD.		TARES.	
	Foreign.	Irish.	For.	Irish.	For.	Irish.	For.	Irish.	For.	Irish.	C.	q.	C.	q.	For.	Irish.	For.	Irish.	Foreign.	Foreign.	Qrs.	Qrs.	Qrs.	Qrs.
1826	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1827	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1828	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1829	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1830	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1831	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1832	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1833	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1834	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1835	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1836	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926
1837	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926	2035	10926

COASTWISE IMPORTATIONS IN 1831-1832-1833-1834-1835-1836.

Grain in Bond at Gloucester, 1st, Month, 5th, 1838.—Wheat, 9259 qrs.—Beans, 10 qrs.—Oats, 5937 qrs.—Barley, 502 qrs.—Peas, 2732.—Indian Corn 1311 qrs.

ON THE ADVANTAGES RESULTING FROM THE ESTABLISHMENT OF FARMERS' CLUBS.

Harleston, Feb. 21.

SIR,—Ever since the subject of a General Agricultural Association, was mentioned at the Smithfield Club Dinner, it has undergone a vast deal of discussion, both in your paper and others connected with agriculture. All the writers on the subject agree that it should be established, but although several weeks have elapsed I hear nothing of any steps being taken towards its formation. Farmers as a body are not easily roused to any subject which bears only a prospective advantage, I trust therefore that the zeal which has already been exhibited in this matter, will not be suffered to cool.

But my present object is not to trouble you with any remarks on a subject already so amply discussed, but to give you some account of a local society, lately established in the neighbourhood, which I feel sure will be productive of great advantages to its members.

We have for several years possessed an Agricultural Association for encouraging ploughmen, and rewarding deserving labourers in husbandry; the benefits of which to the neighbourhood are yearly becoming more apparent,—but it was thought that a Club might also be formed which would benefit the farmers themselves; and in this opinion you Sir, I think, will agree, when I tell you that its object is the discussion of agricultural subjects, and the establishing an agricultural library.

For this purpose a meeting of the owners and occupiers of land in the neighbourhood was called by circular: a number of the most influential attended and promptly entered into the views of the original promoters. The Club, to be called, "The Harleston Farmers' Club," was speedily formed, every person present enrolling their names. Rules were proposed and sanctioned; and all seemed to agree, that such a society had long been wanting in this, and every other neighbourhood. But, better late than never, and I trust that the publication of this in your widely circulated journal, may induce other agricultural districts to follow our example, as we indeed did that of a similar, and very successful institution, in the adjoining county.

Our plan is briefly, to meet once a month to discuss some subject on agriculture which shall have been given out at a previous meeting by one of the members, who is expected to introduce the same—politics are totally excluded—each member pays an annual subscription of five shillings, which is expended in the purchase of agricultural works, both standard and periodical.

It is almost unnecessary to say a word on the advantages likely to be derived from such an institution, as they will at once be evident to every reader. Professional men and tradesmen have long had their Clubs, but farmers, although with more leisure for meeting, than either of the former classes, have always been a divided body, neither are the great bulk of them reading men, in proof of which, see the few periodical agricultural works, in comparison with those devoted to other subjects, and of those who merely read of successful experiments having been tried, how few practise them! Whereas, by entering such a club, as I have just given you a brief account of, not only will they for a trifling subscription be enabled to see all the best agricultural works, and read in them what improvements are going on in distant parts of the kingdom, but they will also have an opportunity of hearing from their

neighbours, the results of such experiments as may be tried in their own neighbourhood, and which when successful, will from similarity of soil, be probably so, on their own farm.

At our first meeting the subject of "saltpetre as a manure" was discussed, and from what was then stated, several persons present expressed their intention of trying it this season. Here Sir, was at once a proof of the utility of the club; but indeed, I held it impossible for a body of farmers to meet together, where the subject of conversation is confined to their own calling, and not allowed to wonder to the hours of the day, to the weather, or what is worse, to politics, I hold it, I say, in such a case to be impossible, but that good must arise to all.

My paper warns me of the length, to which I am intruding in your columns, for which, being already indebted to you, for having inserted my letter "on the averages," I must apologize, and,—am, Sir, your obliged servant.

RUSTICUS.

ON A FREE TRADE IN CORN.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—As the probable effect of a free trade in corn is being discussed in the Mark Lane Express, I venture to give my opinion on the subject.

As the growers advocate protection, and the consumers a free trade, it is tacitly admitted by all that a free trade would *reduce* the price of corn. To this opinion I subscribe, and believe that *nothing but import* caused the ruinous fall in prices, at different periods since 1799, and that a free trade without efficient duties would ruin the present race of farmers, reduce rents and tithes, and place the mortgagees and fundholders' property in jeopardy; and this is admitted by many who are clamorous for a free trade; therefore it behoves these classes to lay aside all party feelings, and unite and exert themselves to prevent so fatal a measure; and if they do not they will deserve no pity. This is the only vital question existing—England is vulnerable in nothing but her agriculture, and had Buonaparte been the profound statesman the world gave him credit for, he would have encouraged the export of corn from northern Europe, even by a bounty, in lieu of issuing his Berlin decrees to prohibit export.

The only rational and constitutional means the landed interest can adopt to prevent so insane a measure as a free trade in corn, is to follow up the inquiry in respect to the effect of a low price of corn (if occasioned by import) on labour wages, and trade.

Some persons endeavour to induce a belief that a free trade would not reduce the price of corn. If so it would not be beneficial to the consumers; but the reverse of this is too apparent to admit of a doubt and the manufacturers require a free trade to *reduce the price of corn* to enable them to *reduce labor wages*, to enable them to compete with the foreign manufacturers; thus *the operatives would not be benefited*.

As a low price of corn, *caused by import*, would cause some inferior soils to go out of cultivation, and a less outlay on other lands, it would reduce the demand for farm labourers, and as labour wages is mainly dependant on the average price of corn, labour wages would be reduced by a permanent low price, *occasioned by import*; and thus farm labourers would not be benefited. Other labour wages would eventually be reduced, and the price of goods and wares would be reduced by competition to a minimum; and thus the artisans, and mechanics, would not be benefited by the price of corn being *reduced by import*, to the standard of northern Europe.

And as competition reduces the price of goods and wares to the minimum, and reduced rents and wages must reduce consumption of goods and wares, and of fancy articles in particular, tradesmen would not be benefited by a low price of corn *if occasioned by import*.

The capitalist would be benefited by a low price of corn, and again by the low price of labour and consequent low price of goods and wares, but if property is rendered insecure by reducing the consumption of taxed articles and the revenue, it would be but a short lived prosperity.

The manufacturers would be benefited by a low price of food enabling them to undersell the foreigners in their own markets, if the governments in these states did not increase the duties on British goods to protect their own manufacturers; but which they would not fail to do; and if we supply any country with manufactured goods of a different kind from what they manufactured, a penny or two per yard, to cover an extra expence in producing from a higher price of food, it would not prevent a sale, even if they have to compete with other foreign manufacturers.

Admitting that the gross annual value of agriculture produce is 160 millions sterling, and that it is brought down to 120 millions by foreign import by a free trade, 40 millions rent, farmers profits, and labour wages, will be annihilated, and lost to the producers of goods and wares.

And as there are 10 millions of the working class, one penny per day reduction in wages amounts to 15 millions sterling per annum, the chief of which would be withdrawn from circulation, in lieu of being first spent in purchase of food clothing and shop goods, then by the dealers in such articles on more taxable article, and purchasing fresh goods of the wholesale dealers, and by them again.

This, Sir, is an outline of the question at issue, whether my view of the subject is correct or not, in all its bearings is not material. It is only by discussion that we can arrive at a right understanding of intricate questions; and scattered as the Agricultural population is, we have no means of ascertaining the prevailing opinion on any subject but through the assistance of the press.

I remain Sir, your humble servant,

CHAS. POPPY.

P. S.—There are two millions of farmers in the United Kingdom, and of course they cannot combine to raise prices. If we have a free trade it will be in the hands of some two or three hundred speculators, who *can* combine to raise prices when it suits their purpose—and if we are dependant on foreigners for our food they may prohibit export, or impose high duties according as policy may direct.

OLD CUSTOMS.—The Anglo-Normans had only two stated meals a-day, dinner and supper. They dined at nine in the morning, and supped at five. The tables of the princes, prelates, and great barons, were sumptuously furnished with every delicacy they could procure from foreign parts. The monks of Canterbury had seventeen dishes every day, besides a dessert; and the monks of St. Swithin's, at Winchester, complained to Henry II. against their abbot, for taking away three of the thirteen dishes they had previously been allowed. Thomas Becket gave five pounds, equivalent to fifteen pounds of our money, for a dish of eels. When this proud prelate went on a journey, he had in his train eight waggons, each drawn by five of the strongest horses. Two of these waggons contained his ale, one the furniture of his chapel, another the furniture of his kitchen; the other three were filled with provisions, clothes, and other necessities. He had, besides, twelve

pack-horses carrying trunks, containing his money, plate, books, and the ornaments of the altar. To each of the waggon was chained a fierce mastiff, and on each of the pack-horses sat an ape or a monkey.—*Old Scrap Book.*

CORN FEEDING v. CAKE FEEDING.

SIR,—In the report in your January number of the anniversary meeting of the "West Suffolk Agricultural Society," I read with much pleasure the speech of Mr. Shillito. The sound and practical advice which is therein given induces me to beg permission to transcribe, for reinsertion in your useful magazine, that part which I can by several year's experience most confidently confirm and strongly recommend to the practice of all engaged in agriculture. Mr. Shillito, after giving some excellent advice relative to the selecting and feeding of stock, goes on to state—"If the farmer was a friend to himself, he thought the preferable mode of fattening was to feed the animal with the good and clean produce of his own farm. When he found that in Bury market he could purchase beans at 15s., and barley at 13s. per coomb, he would say decidedly feed with farm produce. His mind was quite made up, that if he were bound to feed a beast for a prize, he would stick to corn in preference to cake; for independently of the cheapness of the one, they did not know the composition of the other; and besides the advantage of knowing what they were consuming, feeding stock with corn was also beneficial to the farmer, as it was creating a market for his own produce."

In confirmation of these remarks I beg to state, that I gave my feeding beasts ground corn for several years with success, particularly bean meal; I also used barley and wheat meal, which, when I gave to them without a large proportion of bean meal, disagreed with them, causing them to scour; but three years ago, having a quantity of inferior barley and no beans, I determined to try whether the boiling of the barley would prevent the effects the meal produces on the bowels. The trial was so successful that I have continued feeding with boiled barley ever since; and this year I have six beasts feeding on boiled barley superior to any I have seen in the neighbourhood fed on oil cake; and so convinced was a friend who saw them very lately, of the superior condition of mine to his, which are feeding on oil cake, that he expressed his intention of immediately following my example.

The method of boiling the barley is as follows:—To two parts of water add one of barley, then boil it slowly, when it boils add no more fuel, but let it remain in the vessel closely covered; at the end of forty eight hours take it out to cool, and if properly done it will have imbibed all the water, every corn will be burst and in a jelly-like state; this mix with chaff, and afterwards give hay to assist rumination. My six beasts, each weighing from 50 to 60 stone (14lbs. to the stone), consume two bushels of barley per day, worth at market about 3s. per bushel. The cost of boiling, now coals are selling at 1s. 6d. per cwt., is 1½d. per bushel. I leave to your readers to calculate the difference of the cost—as it must vary at different places—between cake and corn feeding, and should any of them be induced, after reading these facts, to follow my example, they will, I feel confident, ever after give the preference to corn, and I beg them to remember, that by so doing, "they will confer a benefit on themselves by creating a market for their own produce." Yours, &c.

Manor Farm, Bedfordshire,

J. H.

ON THE FORMATION OF FARMER'S CLUBS.

SIR,—Being a recent subscriber to your invaluable publication, I hope it will not be deemed presumptuous in an humble tenant to offer a few observations on the present exciting period as regards agriculture, the improvement of which I most heartily wish may be prosecuted with the same vigour with which it has of late been advocated by so many of your talented correspondents, and with your continued disposition to fulfil their desires; and I do confess that the public thanks are due, and should be given, to such a widely circulated Journal, for disseminating that knowledge which is so anxiously sought after. Truly can I say, with Earl Spencer, "that Agriculture is yet but in its infancy;" although these few words to some may appear of little meaning, a few months will disclose volumes; already the deeply prejudiced are imagining that all this late elucidation of sentiment is making such rapid strides that it will be but a very short period before they will be compelled to acknowledge themselves (I must not say totally (in the eclipse) but in more genial language, partially so. You have, Sir, had numerous addresses relative to the formation of a Central Society, and whilst such noblemen as Earl Spencer, His Grace of Richmond, &c. &c., are at the head, there can be little apprehension but that every facility will be afforded to the most secluded experimentalists in the lamentably neglected cultivation of the soil; and I know of no means better adapted than to aim at the objects which the Highland Society has so amply accomplished in offering every encouragement to all classes of farmers, in bringing into operation any new plan, and unfolding the inexhaustible riches which a bountiful providence has bestowed upon us, but which we are every hour trampling under foot. Now, in order to make a Central Association effective, I should advise every district to form itself into a union, for the purpose of discussing agricultural topics, and establishing libraries entirely devoted to agricultural works; I allude to such clubs as are formed at Ashbocking and Yoxford, in the County of Suffolk, the latter of which I had the pleasure of attending very recently, and to the praise of its members must observe, as a stranger, never spent a more profitable evening. All present (about fifty) appeared extremely desirous of canvassing every subject which was laid before them in the most minute and business-like manner, and I have no doubt if any individual would avail himself of the opportunity of attending once, he would feel the necessity (if in the neighbourhood,) of reaping the advantages by becoming a member, or, as in my case, return home and lose no time in soliciting their neighbours to meet for the same purpose. I shall ever feel grateful to the Yoxford Club for their readiness in imparting to others that information which they find so valuable to themselves, and happy am I to be enabled to state that in the district where I reside, we, in one week only, found no difficulty in enrolling fifty-six members at an annual subscription of 5s. each, for the immediate purchase of all the Periodicals devoted to agriculture, and as many more farmers will be proposed at the next monthly meeting; it will be in our power to make a considerable purchase in standard agricultural works, and by the liberal offers of books from proprietors of land, as donations, a very valuable library will be attained for the use of the Harleston Farmer's Club.—I am, Sir, your's obediently,

Redenhall, Feb. 23.

JOHN GEDNEY.

FAMILIAR LETTERS ON POPULATION.

BY JOHN ILDERTON BURN.

The two following letters from this publication will, we are convinced, be perused with interest by our readers.

Labour, then, not only produces all the capital in the world, and all the articles whether of necessity or ornament therein, but it also reproduces them when expended or worn out. Without labour, constant and unremitting, of some human beings, the whole mass of society, themselves included, would soon crumble to pieces, and be reduced to wretchedness, famine and destruction. So soon indeed, that one year of perfect idleness of every one now occupied in useful labour, would probably thin the ranks of mankind one-half. All would be consumers, and there being no producer what a hideous prospect opens to the contemplative mind! Take a populous town in a state of siege, and without supplies, and we have a resemblance, a faint resemblance, of the state of man without labour.

Labour then, is just as requisite to reproduce capital, to replace it, and all which it can purchase, as in the creation of it originally. Of what vast importance, then, is it, that the market for labour should not only be supplied, but that it should never be overstocked, or choked up, for the want of adequate remuneration. The labourer is not only worthy of his hire; he ought never to be in a situation in which his services cannot command it. The field being opened to him at all times, then he ought to be content with his wages, and fulfil his duties, whatever they may be, and in whatever channel directed.

To find and keep up a market for labour, appears to be the first and the last duty of civil government; on which the safety, honour and welfare of every state depends, and without which it could never stand with any security whatever. The structure of civil society is such, and the habits of men are so embued, practically, with the constant purchase and exercise of labour, that this is in a great degree effected, without any interference with the respective parties whatever: occasionally, however, we find markets for commodities vary; the supply at one time under, at another over, the demand for it; so that great misery and destitution are encountered by the mechanics, who are the subjects of great fluctuation. Having made and reproduced more than is needed of any particular commodity, they must wait, if not diverted into another channel, till the consumer shall have made way for a fresh supply. It is quite clear that a supply of labour under the demand for it, will increase wages as well as the price of the commodity, and that a supply over the demand will diminish both. What is the happy medium? and who is to find it out? and how? This can never be done with perfect accuracy, but it may be so guarded and directed as to diminish many existing evils, and produce much ultimate good. The vigilant eye of government may, and ought, not only to superintend, in some degree, such fluctuations; but also to provide a remedy for them to which all may resort.

Conversing once with a statesman of great eminence, he put the question to me, in reference to the sudden discharge of a great number of manufacturing labourers from a factory in the country:—"What would you do with them," that is, the men discharged suddenly. It was a direct question, requir-

ing a direct reply, for which I was not immediately prepared.

On a little consideration, I wrote to him, and suggested the employment of them for public purposes, and at the public expence, in making or improving harbours, piers, and other public works that would ultimately benefit the country. His objection to this was apparently a very good one, but not so in reality. It was, that on the completion of any such work, they, the labourers, would again be destitute, and that, consequently, the remedy would be only temporary, and therefore, inefficient. There is a fallacy, however, in this objection, that may not appear without due consideration. The making a new harbour for instance, or building a new pier, or any other work of public utility, and which can never be better undertaken, than when labour is plentiful, requires a larger amount of labour than is needful for their reparation, certainly, there is no doubt of it; but the erection of new works of public utility, for which the people ought, consequently, to pay, creates also the certain supply of labour, of constant application, for repairing and upholding what shall have been so erected, and that otherwise never would have been needed, nor come into operation in any other way. If one hundred men are required to erect, perhaps ten, or five, of that hundred, may be *always* required, to uphold and repair. A certain portion clearly must be required; and therefore, the double benefit of the supply of waste labour, temporarily and permanently, are thus secured, whereby something is added to the common stock of benefits, and nothing lost in effecting it. There is the *temporary* labour of the many, and the *permanent* labour of the few.

Supposing an entire new street to be built at once by a certain number of workmen; yet no sooner is it done, than a constant supply of labour of a lesser number is ensured, that, but for the building of the street, would not have been required. This, applied to the question put to me, may be taken as a direct reply; but another consideration, in close alliance with the inquiry, is, that the government itself on many occasions has sent off, suddenly, and without previous notice, many labourers on the stoppage of any particular works or undertakings. This certainly is an evil that requires correction; and the obvious and natural means of correction exist in the setting them to new and important works of public utility, which a great and improving country can always undertake with advantage.

It is an admitted and proved fact, that there are many millions of acres in our fertile islands that have remained in a state of nature since the flood. I infer, then, as quite of course, that there is a redundancy of such acres, and do so on the settled application of the term to unemployed or waste labour. Human beings unemployed, consequently unproductive, living upon a store to which nothing on their parts is contributed, are said to be redundant. Thus, then, the acres unoccupied, consequently not rendered productive, are also redundant. This, however, must be limited to relative non-production in both cases, for the idle labourer may occasionally fall in with a job, and untilled land occasionally furnish a scanty meal to a sheep.

It is an admitted and a proved fact, that machinery drives manual labour to a very great extent out of the market, making such labour thereby redundant. Why are the redundant acres suffered to remain in their natural state, and not rendered productive? Because there is evidently a want of hands applied to them. This is the sole reason; there is no other.

If there had not been a population, for example, of more than ten millions, in this country, many more millions of acres, would consequently, and for no other reason, have still remained, like the acres alluded to, in a state of nature. Then if more hands existed to be applied as heretofore to the now uncultivated lands, the consequences would be, as heretofore, abundance of employment for both—abundance of food for the labourers—abundant wealth now lost to the country.

Machinery has justly superseded manual labour, because machinery does that better and cheaper than any manual labour could perform. It produces more abundantly for all—it is more beneficial to all—it is cheaper for all; no one can except to it but he who thereby, and for a time only, loses his bread. If no other resource were left him, still, even in that extreme case, the benefits would vastly overbalance the evils incident thereto, because for one thus injured one hundred would derive advantage. To maintain him out of the public purse would even be better than to drive machinery out of the market in order to employ him again. To maintain him actually idle and at his full wages would be better, because the vast preponderance of benefit would far exceed the cost for the whole term of his life, were such a preposterous course imperative. But that this is all imaginary I proceed to show, on grounds that appear to be impregnable. If the weaver, for instance, were like the machine incapable of other application, then he, being displaced by a superior instrument, must exist on the common stock, and contribute nothing to it for life. If the weaver, however, unlike his machine, can do any other acts of manual labour, where manual labour is not yet superseded by machinery, then any exercise of his powers would be better than sheer idleness; for any exercise whatever would produce something. Say that the common stock is still to be charged with his maintenance, yet the burden is lessened by every exertion of his faculties in another pursuit. His redundancy is absorbed gradually in the general mass of labour, and by degrees ceases, for that his labour in other pursuits becomes useful and is needed, and pays for his maintenance. The foregoing statement leads to this grand inference and application—the waste labour to the waste land; this lessens the actual redundancy of each; it increases the production of both; it thereby promotes the interests of all. Still, when we shall have gone through the various relations of machinery to manual labour, tending as the former necessarily and properly does to displace the latter, by doing better and cheaper what the latter cannot so well accomplish—still, I say, the man so displaced, not being himself a *machine*, can turn his hand to another pursuit and dig the land, whence only subsistence is to be derived, and create it from the acres that never before were cultivated. Redundant acres, redundant labour, no machinery here but that of the spade, the hoe, and the rake; and luxury of bread, for which before the mechanic laboured in vain. Before, he was an unhappy competitor with equally unhappy associates, working in vain against a stream that grew stronger as their strength failed them. Now, taken off at once from the miserable conflict, to compete with barrenness and render it fruitful for every one—redundancy of acres diminishing; redundancy of labour diminishing, redundancy of produce substituted happily in their place. If we go carefully over the series again, it would appear that the only permanent redundancy; and that the least injurious, will be of the acres, which cannot be fully occupied for ages to come. The now redundant labour applied

to them ceases, *ipso facto*, to be redundant. The redundant mechanic, competing now in vain with a machine, applying his strength to the acres, ceases to be useless, and is no longer redundant. All injurious competitions are thus ended; all useful ones thus encouraged. Has not this, by the way, been the course, or something very like it, only that the advances of science have been slower heretofore than at present, ever since the islands were peopled? Have not the redundant acres gradually been displaced, and rendered productive by what would otherwise have been redundant labour? Does any man doubt of this, or can it be doubted for one moment by any one who turns his attention to this subject? All those who seem to argue against it in effect prove it, for the whole burden of their song is to do that elsewhere which I contend is best done here; that is, colonize on a new territory, as if we had none here to operate upon in the self-same way. Then, strictly speaking, there is, or rather need be, no redundancy here but of the barren acres. They will never cease to be barren or unproductive till labour is applied to them. Nothing hinders, but, on the contrary, circumstances strongly invite, the immediate application of redundant labour to the redundant soil. The injurious redundancy is thus, and thus only, but for ever, ended, the redundancy of labour. The redundancy of the acres remain, lessened in number it is true, but still far exceeding all the power that can be applied thereto for ages to come. Nay more, the same process nearly, *mutatis mutandis*, may be applied to the water as to the land, to the seas as to the islands; so that the full bounties and blessings of Providence laid open to our daily view, need but the hand of industry and good sense applied thereto to be amply and thankfully enjoyed.

THE NEW MANURE OF JAUFFRET.—A friend of ours has obligingly written to a large landed proprietor in France, who is a Member of the Chamber of Deputies, making enquiries respecting this man and his *invaluable* manure, when it turns out that he is one of that class of *charlatans*, of whom there are so many at this time practising deception on the Agricultural community. It appears that the old peasant has lived in clover these last two years and duped dozens of Mayors, Prefets, and other functionaries, and taken the cash of hundreds of subscribers. Our friend's informant, who was himself one of the dupes states that the new manure costs *double* the price of ordinary manure. The author of this *valuable* discovery is, it appears, dead. Had there been a National Agricultural Institution in existence in this country, having individuals connected with it ready and competent to examine into such pretended discoveries, this *swindler's* tricks, as well as those of many others, would long since have been exposed.

The lambing season has commenced, and, notwithstanding the severity of the weather, goes on favourably. The ewes, we are informed, are generally in good condition, and do not require that wearying attention which has been necessary in some previous seasons. A ewe, belonging to Mr. T. Lavington of Poulshot Lodge, produced last week, the extraordinary number of four lambs, all alive; and of a good size.—*Devizes Gazette*.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT
FOR FEBRUARY.

Although this month is celebrated for its fill-ditch notoriety, the quantity of rain which has fallen has been considerably less than usual, in many corresponding seasons. During the whole of the first part of the month, the progress of ploughing was much obstructed by the prevailing severe weather. However, farm labours are by no means in a backward state. There having been but a very small quantity of herbage in the pastures, recourse has been necessarily had to dry fodder, for the stock, which, as a matter of course, has greatly increased the expenses of our farmers. Notwithstanding this circumstance, we are most happy in bearing testimony that the farm stock has suffered much less than might be expected.

The principal farm-labours of this month have been the carting out manures, for the land destined to be sown with Oats; whilst, since the frost has disappeared, considerable progress has been made in Oat-sowing.

From Scotland and Ireland, we have received favourable accounts, as regards agriculture; it being considered, by all persons conversant in rural affairs, quite as forward as is usual at this season of the year.

Many farmers and others, interested in Agriculture, with whom we have heard from, or conversed with, during the month, appear to be more favourably inclined, than formerly, to the passing of a Bill (which has been lately introduced into the House of Commons by Col. Seale) for the grinding of foreign Wheat in bond, for export to foreign ports. We cannot but conceive that the opposition which was formerly offered to the passing of such a measure, was not founded on just grounds; and, indeed, we have heard it affirmed that our conclusion is based on a very tenable position. Were we at all apprehensive of such a measure acting in any way prejudicially to the interests of the agriculturists—who ought, of all classes in the British Empire, to have due protection afforded them, which all persons will freely admit, when the importance of Agriculture is considered—we should be amongst the first to oppose it: knowing as we do, that it will be the means whereby the extension of our commercial operations will be so much created (which is of no trifling importance to us) we honestly confess, that the measure, if passed into a law, will not, as some have averred, militate against the interests of any persons engaged in agriculture. When, we will ask, can possibly any mischief arise, when an equal quantity of corn will be placed in the bonded warehouses for that taken out for the purpose of being converted into flour? We ourselves do not see how either the Government or our farmers can suffer by the adoption of the measure. Besides, there is another very important subject to be considered, by which we mean the increased number of hands which will be required, to attend to those mills which it will be found necessary to erect. In conclusion, we could wish, that the proposed plan were given a fair trial, and we have not the least doubt as to the result.

In the metropolitan markets which have been held during the month, the trade has been, on the whole, dull, and but little variation can be noticed in the quotations.

A STATEMENT of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market in the course of the month. Those of the beasts have numbered 12,090; of sheep, 126,090; of calves, 1,920; and of pigs, 1,666.

The above supply of beasts has been derived from the following quarters:—From Scotland 400 Scots; from Norfolk, 3,000 Scots; from Suffolk, 360 Scots; from Essex, 322 Scots and Herefords; from Cambridgeshire, 300 Scots and Devons; from Lincolnshire, 2,000 short-horns; from Leicestershire, 1,200 short-horns; from Northamptonshire, 220 short-horns; from Sussex, 200 oxen, Devons, and Scots; from Surrey, 150 Scots and Herefords; from Kent, 100 runts, oxen, and Devons; from Devonshire, 600 Devons; from Herefordshire, 650 Herefords; from Staffordshire, 115 Staffords; from Somersetshire, 100 Somersets. The remainder of the supplies of beasts came chiefly from the stall-feeders, cattle-lodgers, &c., near to, and within a few miles, of London.

About two-thirds of the supplies of sheep have been composed of not far from equal numbers of South Downs, old and new Leicesters, Dorsets and Somersets; the remainder of polled Gloucesters, horned and polled English-fed Scotch and Welsh sheep, &c.

With respect to the quality of the beasts and sheep shown in Smithfield, this month, we have to state that it has been quite as good as could be expected.

A STATEMENT and comparison of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market, on Monday, Feb. 27, 1837, and Monday, Feb. 26, 1838:—

At per 8lbs, by the carcass.

	Feb. 27, 1837.			Feb. 26, 1838.		
	s.	d.	s.	s.	d.	s.
Coarse and inferior beasts	2	4	to 2	6	.. 2	4
Second quality do.....	2	10	3	4	.. 2	8
Prime large oxen	3	6	3	10	.. 3	6
Prime Scots, &c.....	4	0	4	4	.. 4	2
Coarse and inferior sheep	2	10	3	0	.. 3	2
Second quality do.....	3	6	3	10	.. 3	6
Prime coarse-woolled do.....	4	4	4	8	.. 4	0
Prime South Down do	4	10	5	0	.. 4	6
Large coarse calves	4	6	4	10	.. 4	6
Prime small do.....	5	2	5	8	.. 5	6
Large hogs.....	3	6	4	0	.. 3	2
Neat small porkers.....	4	6	4	10	.. 4	8

SUPPLIES.

	Feb. 27, 1837.	Feb. 26, 1838.
Beasts.....	2,780	2,822
Sheep.....	25,300	21,035
Calves	150	109
Pigs	210	695

It appears, by the above comparison, that the supply of Monday, Feb. 27, 1837, embraced 42 beasts, and 485 pigs less, 4,265 sheep, and 41 calves more, than that of Monday, Feb. 26, 1838.

The prices which have been realized for stock during the month are as follows:—beef, from 2s. 4d. to 4s. 6d.; mutton, 3s. 2d. to 4s. 8d.; veal, 4s. 6d. to 5s. 10d; and pork, 3s. 2d. to 5s. 2d. per 8lbs. sinking the offals.

The arrivals of slaughtered meat, up to Newgate and Leadenhall markets, have been composed of about 950 carcasses of beef, 13,020 do. of mutton, 12,900 do. of veal, and 9,000 do of pork, as also about 250 packages of meat:

NORFOLK.

From the first week in the new year up to the present period, the almost uninterrupted continuation of frosty weather has entirely suspended the use of the plough, and impeded the customary routine of field labour. The work which should have been done in the winter months remains to be performed at the spring of the year; thus the land from which the turnips have been drawn is none of it turned over, nor are the ploughings fully completed upon the wheat stubbles intended for summer tillage, or for the reception of spring corn and pulse. This work must now inevitably be protracted beyond the usual period, and wherewithal, perhaps, undue expedition may induce the farmer to abridge the quantum of labour which good and perfect husbandry requires. It has been universally admitted that the turnip crop of last summer, now consuming, was more perfect and afforded a greater weight of food per acre than any we have had for some years past; this circumstance induced the graziers to increase the number of their cattle now in preparation for the London market; consequently, there are very many half-fat beasts that will require to be finished upon corn or oil-cake; a measure which cannot be pursued with advantage under the present prices returned from Smithfield. It is just possible also that the destruction amongst the turnips may prove sufficiently extensive, upon the final breaking up of the frost, to occasion serious inconvenience to the holders of lean cattle and sheep, before the upland pastures will afford them a bite, or the spring tares are fit for soiling. The extent of mischief which the wheats may have sustained from the recurrence of frost after a few days thaw, and before the poachy condition of the land could be corrected either by evaporation or absorption, will not be fully ascertained sooner than the first or second week in April; it is to be feared, however, that the damage is somewhat extensive, as most of the wheat in exposed situations after the first covering of snow had disappeared (*i. e.* between the 10th and the 17th), exhibited a very bleak and unpromising appearance. In the controversy between the "Buckinghamshire Farmer" and the "Hampshire Correspondent," allusion has been made to our Norfolk "report" to elucidate the question relative to the alternate course of cropping pursued in that county. The principle has been so long acted upon and established by conditions to that effect inserted in most of the modern leases for the letting of land, that it excited our surprise to see such a question seriously debated. It is true there are deviations from the four-course shift of wheat, turnips, barley, and lay; but as these cannot be explained within the compass of an agricultural report, we purpose (as soon as the parochial assessments, &c., shall less engross our attention) to offer, through the medium of the "Farmer's Magazine," a series of papers descriptive of the Norfolk system of husbandry in all its branches.—Feb. 22.

SHROPSHIRE.

Owing to the frost being unusually severe, and lasting longer than any we have experienced for some years, there has been but few things that could be done of late in farming business. Thrashing and halling manure seems to have been the chief employment of many, and as that is completed generally, fine weather is desirable and anxiously looked for; or otherwise the ploughing will be very much behind hand. There has been many complaints respecting the turnips, all are so frozen that they cannot be eaten, though much wanted; and it is feared that

many are much injured, but to what extent is at present unknown; nor will it be ascertained till we have a complete thaw, which is likely to change the appearance of things with many, in particular the labouring class, who, in many instances are suffering both from the severity of the weather, and the want of employment. The potatoes are severely injured in many places, where they were not particularly well secured, this loss will be felt very much by many but chiefly by the lower orders. Many of the wheat fields appear bare, and more like a fallow than anything else, so little is there to be seen; but it is useless to venture an opinion so early on this subject.

CUMBERLAND.

Since the first week in January the frost has prevented the use of the plough, for though we had fresh weather on the 22nd and 23rd Jan., and on the 7th, 8th, and 9th, of Feb., the ground continued so hard as to prevent its operation, and it will now take a week at the least, after the thaw takes place before it will be able to turn up the soil; this makes a late and hurried seed time certain. We have not the least prospect of a change of weather; in the middle of the day the sun shines out bright and warm, with the wind often in the south, but as soon as the evening approaches it veers round to the east, and the frost becomes intensely severe, and unfortunately this has not been accompanied by snow sufficient to be any protection to the wheat or turnips, it never having, since its commencement, been an inch in depth; of course the young wheat plants must have suffered serious injury, and the turnip crop be nearly, if not quite, destroyed; when the frost breaks up the effluvia arising from the turnip fields will proclaim to every passer by its destructive effects; fat stock of all descriptions, but more especially sheep, must then be hurried to the market, which we may reasonably expect to be glutted by the numbers forced into it. Thus the turnip season which began with a superabundant crop, will end in a deficiency, and the sheep fed upon them which a few weeks ago were offering the fairest prospect of paying amply for their keep, will in all probability lose a great deal of money. So uncertain is a farmer's occupation and so very dependant is he upon the state of the seasons. The stored turnips are little better than those in the field, and the frost has in many instances penetrated the potatoe pits, and even entered the houses and frozen the roots there. The brooks, rivers, and lakes, may all be crossed upon the ice, and water-fowl were never known to be so numerous; amongst the very great variety we may name that noble bird the swan, many of which have been killed in the Eden, the Eamont, and the Lakes. But after all it is probable the spring will be a fine one; the grass may yet be a month earlier than last year. This cold weather is thinning the stack-yards very fast, every living thing upon the farms requiring support from them. Farm work has been confined to tending cattle and sheep, thrashing out corn, carting lime and manure, laying in a stock of fuel, and making every preparation for a change of weather, by doing all things possible under present circumstances. We have had a good demand for fat cattle, but at scarcely remunerating prices, as they were bought very high in Autumn, 6s. per stone of 14lb. for the best, sheep 6d. per lb., pork, 5s. 9d. per stone, small pigs from 14s. to 20s. Wheat has varied little. Oats have improved about 2s. per qr. Barley continues dull. There is no want of employment for good labourers at fair wages, that is from 11s. to 13s. per week.—Feb. 22.

OXFORDSHIRE.

As the month of December seldom furnishes matter of much importance to the agriculturists, we shall confine our few observations to the last month of the past year, and the first of the present into one report. The last year ended, as our readers are well aware, with most favourable weather for the cattle, and up to Christmas but little hay comparatively was spent, and the stock laying in the pasture were doing well. The birds were singing in the morning, and we were ready to forget that it was winter, excepting the indication thereof by the shortness of the days; thus ended the old year, and we had not entered many days on the new ere we were pretty sharply reminded that it was really the winter by the usual concomitants of frost and snow. The former, perhaps but rarely, if ever, exceeded for rigour in this climate, but vegetation having a tolerable covering of snow, suffered but little, the first part of the frost, for during the short thaw, and when the snow disappeared, everything (that is both greensward and corn) showed a beautiful verdure, although sharp winds had for many days blown to the east and a point to the north; but the prospect was of short duration, the frost returned with redoubled fury, as it were, and the prospect was soon turned to dreary in the extreme, and serious fears were entertained for the wheat crop and Swedes; as for the white common turnips, they had for some time been given up for lost; and as for apples and potatoes, the frost appeared to bid defiance to every effort used to save them, and the consequence has been that thousands of bushels of each are frozen. We have now experienced a sound thaw, and a firm one, and although the garden products, as brocoli, greens, &c. are dreadfully eaten up, yet the wheat, we are happy to report, is looking far better than could have been expected; it is true that on the tops of the ridges the rows are severely frost-bitten, but on the level surface it is looking fair. Winter beans have now had a severe test, and their present appearance proves that they are equal to any degree of frost we may experience in our climate; vetches are also less injured than one would have been led to suppose. The frost had the effect of throwing many labourers out of employ, and the workhouses have been full, but as an immense deal of manure and bones for road-making and draining have been carted during the frost we hope, should the weather continue open, the worst may be said to be past, but while we are writing the wind has shifted from south to north, and we are apprehensive we shall have a return of frost. Although cattle have consumed an immense deal of hay of late, yet it may be bought at about 10s. per ton advance on former prices. Wheat has sold on rather better terms of late; other articles much the same, except beans, which are lower. We have had recently a good demand for wool, and the price is considerably higher, with every prospect of a further advance.—Feb. 9.

BEDFORDSHIRE.

In the history of farm operations, we never recollect to have had occasion to notice upon the whole such severe weather as that with which we have been visited for the last six weeks. It is true there have been some short intermissions of this severity, but short indeed they have been; and though it was impossible that it could occur at a more seasonable part of the year, still the frost has been so intense, that its effects begin now to be somewhat alarming. Whenever the frost has, temporarily given way, the turnip-fields begin to emit a most nauseous stench, particularly those of the common kind, by far the greater part of which are now totally decayed, and as soon as the frost leaves them will be quite worthless. Many of the Swedes are also gone, the more so where they had been previously attacked by the brown grub. Others will be greatly deteriorated in quality, while we hope the bulk of these invaluable roots will still afford the farmers some very useful food. Should, however, these fail, (which, with these alternate frosts and thaws, is not impossible,) it would be difficult to imagine how the stock could be carried through. The

potatoes and mangel wurzel, where only ordinary precaution has been taken in their preservation, are we believe full half of them destroyed, and in many instances even a greater proportion. The young seeds and grasses, which presented so beautiful a verdure when we ushered in the new year, have been much cut up, while the pasture land generally greatly resembles an old sun-burnt wig. The young wheat has also suffered a severe check, though we must confess (having had but little snow to cover it) we have been surprised that it has not suffered more. The horticultural department (if society were equally interested in it) presents a still more dismal appearance. The young plants, the brocoli, in fact, everything that should be green, seem almost annihilated, not excepting the far-famed *Casarean Waterloo Juggle*! This extraordinary, most extraordinary, species of cabbage is as withered, ah, as blasted (if it were possible) as the reputation of the man who introduced it; and for our own parts, we wish the delinquent no greater punishment than to be put up to fatten exclusively upon his own cabbage till he was induced to disgorge every shilling, of which he has so extensively plundered some of the agriculturists of this kingdom. We feel quite confident that we shall be excused this digression, and in reverting back to our rural affairs, we must admit that the frost, though more intense, has not yet been of so long continuance as that of 1814; that the middle of the day, from the extended circuit of the sun, is now sometimes very pleasant; and forcarting, thrashing, &c., the weather is as good as can be wished for; and, should the frost be succeeded in the course of another week or two, with suitable spring weather, there may yet be nothing seriously the matter. The price of wool is now remunerating, and we believe the trade is buoyant; that of grain has been stationary since our last, except barley, which has gone down still lower, much of the coarser quality not being now worth more than 3s. per bushel; whereas, but for the *odious malt tax*, this same barley might be made of about double that value, for the use of the farmer's cattle upon his farm! Let our legislators hear that, and while they read our agricultural notices, they shall hear it, but those legislators particularly who style themselves "the farmers' friends!" and let them know that *but for the same tax the poor labourer, who thrashes out that barley*, and who now scarcely tastes of ale for nine months out of the twelve, might get two pints of good ale a-day in the farmer's kitchen, at the cost to neither party of more than about 9d. per week. Let these gentlemen, then, instead of merely placing these coaxing words on their banners at elections, try to deserve the *appellation*, by setting themselves to remove this hateful and unequal impost, or else abandon for ever all claim to the title of "the farmers' friends," or the friends of their country. We have often felt it our duty (and we have done so with great pleasure) to advert to the striking improvements which the new poor law has effected. It is but fair, therefore, on the other hand, to point out its defects, and we think there are some glaring ones. Our opinion is, and we have not formed it hastily, that the erection of workhouses, the new valuations, but, above all, the new surveys, ought to have been defrayed by a rate upon the owners, and not of the occupiers, of property; at any rate, to call upon a mere tenant-at-will to survey and draw plans of the estates of the noblemen and gentlemen of the kingdom, to say the least of it, is a monstrous piece of injustice. There is another point too, which, if not equally unjust—when we take into account the litigation, the trouble, the waste of public money, and the heartburnings that it occasions among the poor—is an evil perhaps of still greater magnitude: we hardly need say that we allude to the enforcing of poor and highway rates upon the occupiers of small tenements. We wish, however, not to be misunderstood; no property, however small, ought to be exempt from rates; but while these petty sums are collected of needy tenants, there will always be an immense number of defaulters, and the consequences of enforcing payment are, in many instances, quite appalling. It is, however, a fact which ought to be generally known (and there are doubtless many more such cases in the country), that at one of the petty sessions of this county, held th

other day, there were no less than about fifty applications for summonses for the above class of rate-payers, many of which will have to be followed up by distress-warrants, and to see the almost worthless furniture of these poor defaulters dragged out by wholesale, to pay originally some petty half-crown, and at a time too like the present, when, to say nothing about food, one-half the weekly earnings of the family might be very well spent in the article of fuel only, is a state of things which we conceive no person, laying any claim to humanity, can contemplate without horror. The rates upon small tenements *must certainly be defrayed by the owner*; and on strolling the other evening into the House of Commons, we were greatly delighted to hear the Home Secretary (Lord John Russell) moving for a committee of inquiry into this very grievance, and we sincerely hope that the Easter recess will not arrive before some effectual remedy is applied.—Feb. 15.

GLAMORGANSHIRE.

We have not experienced so severe a winter for many years. In a situation not particularly exposed, and 100 feet above the level of the sea, the average temperature of January was only 31 deg. 4 min. 10 sec., which is 10 deg. 6 min. 10 sec. below the average of January in this latitude. During the night of the 19th the thermometer receded to 13 deg. In the same situation the greatest depression during the last 23 years was in January, 1829, when it registered 17 deg. The temperature of January for the last four years in the same place averaged $4\frac{1}{2}$ deg. At the commencement

of the present month we had a few days' thaw, but for the last week the frost has been again exceedingly severe, the thermometer, for several nights past, having registered 24 deg. and 25 deg. The labouring classes have experienced some privations from the severity of the weather, which suspended many public works. Our navigable canals were stopped for about a month. The applications to the board of guardians were consequently rather numerous; they were met by offers of employment in breaking stones for the roads at a reduced rate, and also by the adoption of that excellent provision in the New Poor Law, namely, "loans" of small sums, to be repaid again by attaching their wages, many of the applicants acknowledging that, when employed, they earned 18s. to 20s. a week. For farming operations this sharp frost has been seasonable in affording greater facilities for the removal of manure, and it will be found beneficial in mellowing the winter fallows, and in the destruction of slugs in the soil, &c. On the other hand, the absence of snow in this county left the young wheat fully exposed to the intensity of the long-continued frost, which commenced on the 7th of January. The blade has nearly disappeared, and we expect to find, when a thaw arrives, that a very large portion of the plants are destroyed, and that the injury will be most serious. The common turnips are all destroyed; the Swedes have been partially injured, the extent of which can only be known when the frost is gone off. The great advantage of storing the latter was never more apparent. During the whole of this severe weather these have been soft and mellow, while the turnips exposed are so firmly frozen that neither sheep or cattle can consume them, besides the impossibility of separating them from the ground.—Feb. 15.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

CRICKLADE MARKET, TUESDAY FEBRUARY 20.—Good as these monthly markets have been since their establishment, this, as regards the supply of cattle was fully equal to the best that has previously taken place, and as regards the attendance of butchers and dealers, decidedly superior, very many attending from various and distant parts of the country for the first time, who one and all expressed their astonishment at the number and quality of the beasts, which in their belief surpassed that of other markets in North Wilts. Considerable bustle and activity was manifested throughout the morning, and a great deal of business transacted at moderate prices; in fact, nearly every head of cattle and sheep was sold. There was a great number of very capital springers brought by those celebrated dealers in that line, Mr. Clarke and Mr. White of Clanfield, Messrs. Chapman of Eastington and Leachdale, Mr. Turner of Purton, Mr. Andrews of the Old Inn, Gloucester Road, Mr. Bryan, and many others, many of which realised 20l. a-piece. It may be well to observe that much praise is due to the several landlords of the town, for the satisfaction they have invariably given in their department to the frequenters of the market; they seem to vie with each other in affording that accommodation to the butchers and dealers which is so much in their power to do, and the liberal exercise of which is so essential to the success of the markets and consequently to their own benefit.—Number of beasts, 424; sheep, 332. Beef, from 9s. to 10s. per score: mutton from 5½d. to 6½d. per lb. A great deal of business was done in all sorts of grain, at same prices as at Cirencester market, the day previous. It is understood that an excellent supply of cattle, even exceeding this market, is expected at the next market, Tuesday the 20th of March next which, be it observed, will be a hiring fair for servants.

EXETER FAIR.—Of fat bullocks, the supply of superior things was not large, and pretty well all of this character, together with a fair proportion of middle rate

beef, and also of inferior things were sold. With respect to price, about the best heifer shown was sold by Mr. John Pidsley, of Pinhoe, to Messrs Manning and Howard, of this city; it was estimated at 40 score, and fetched 20 guineas, which, if the estimate be correct, gives 10s. 6d. per score. Of superior oxen Mr. Phillip Francis, of Moor, in Crediton, sold a pair to Messrs. England and Son, of this city, estimated at 11 score the quarter, for 43l., or full 10s. per score. Another of the Mr. Pidsley's also sold some superior oxen at what was estimated to be 10s. per score. Messrs. England likewise purchased a pair of prime heifers, estimated at 40 score the bullock, for 38l. or 9s. 6d. per score. Superior articles of this description, however, it is perhaps hardly fair to bring into the general quotation, these being the exceptions to, rather than forming the rule; a more just view of the whole transactions and guide to the future being given, if (these apart) we say for fat Bullocks, from 8s. to 9s. 6d. per score. The show of plough oxen and steers was not over large; nor have there been many graziers from the Eastern counties present; some dealers however, from this direction were here, and the business done in this part of the fair has not only been considerable, but it is believed highly satisfactory. Some oxen, called plough oxen, certainly, but which from their *meaty* state are entitled to be considered in a somewhat different character, have been sold at from 36l. to 38 guineas the pair; and our quotation for plough oxen, properly so called, must be from 30l. to 36l. the pair, plough steers likewise, if superior, have met a similar good fair, some two year old steers, answering to this description, having been sold for 11l. a-piece; whilst our quotation generally in this way must be from 22l. to 26l. the pair. Barreners in condition and with freshness about them, have also been picked out, and realised prices of from 5s. 9d. to handy 6s. 6d. per score. The falling part of the fair, if the term ought at all to be applied to such a morning of

business as this altogether has been, has been with respect to poor stock, literally so, for which the demand is not great, nor can we quote it higher than 5s. per score. There has been no small number of cows and calves, but mostly of an indifferent description; these, however, have not fared ill amidst the large transactions of so excellent a mart as this, taken as a whole, has been found, and we must quote the sales at from 8*l.* to 14 guineas, or from 7*s.* to 8*s.* 8*d.* per score. Upon the whole then, the supply, as compared with some former fairs at this season, has been but small; the show of fat bullocks not at all equalling in number what was anticipated; a remark that is also applicable to oxen and steers, of which some who came purposely have not seen the opportunity of purchase, while there has been this singularity in what has been sold, that a proportionately better price has been obtained for things in a working, than *meaty* condition.

TETBURY MONTHLY MARKET, was very respectably and numerously attended, with a good supply of fat and store cattle and sheep, with numbers of purchasers. Best fat beef sold from 6*d.* per lb., inferior in proportion; best wether mutton, 6*d.* per lb.; ewe 6*d.*, with a large supply and purchasers; fair supply of cheese, with purchasers, from 50*s.* to 65*s.* per cwt.; fowls, 3*s.* 6*d.* per couple; eggs, 14 for 1*s.*; butter, 14*d.* per lb. Several sacks of wheat, barley, seeds, &c., were pitched in the Market-house. It should be remembered that the first wool fair will be held on Ash Wednesday.

KELSO MONTHLY CATTLE MARKET.—There was a good show of all descriptions of cattle. Sales for prime beasts were readily effected at from 5*s.* 6*d.* to 6*s.*; but those of inferior quality were in little request, and many left the market unsold. Prices for beef may be quoted at from 5*s.* to 6*s.* per stone. The supply of sheep was limited, and those sold, brought from 5*d.* to 6*d.* per lb.

BARNSELY FAIR, Feb. 21.—There was a considerable number of horses shown, but chiefly of an inferior description; there were some useful cart horses, for which high prices were asked. Very little business done. The number of cattle shown was very limited, and met with fair demand. The supply of pigs was not numerous, but the quality chiefly good; some fat pigs were allowed to be the best ever shown here.

CHESTER CHEESE FAIR.—There was a large quantity of cheese pitched in the linen and commercial halls. The demand for cheese of every quality was brisk; the average price paid for middling sorts was from 50*s.* to 60*s.*; and the most prime dairies sold at from 65*s.* to 70*s.* The attendance of factors from various parts of the united kingdom was numerous; and, we think, from the prices given, that the farmers generally may expect better times.

At LIFTON FAIR, from the severity of the morning, but few bullocks were driven in. There were however, those present who had come a long distance for the purpose of purchasing, and, consequently, for the best oxen, high prices were asked. Indeed, for some of the most superior, as much as from 36*l.* to 40*l.* the pair. These prices, however, were not realised, and it is believed they were not sold. The prevailing prices for plough oxen, and at these rates business was done, was from 26*l.* to 36*l.* the pair, with a few reached to 32*l.* the pair.

DUMFRIES FAIR.—In our report of this important fair which appeared in our second edition of last week, we stated that, not above half the show had found purchasers on Wednesday, and therefore, that the show on Thursday, in all probability, would be considerable. Accordingly our expectations as to the market on Thursday were fully realized. The show was large, almost as large as that which frequently takes place at several of our fairs, and in general of excellent quality and condition. Holders having yielded, though with considerable reluctance, to the dealers' terms, a great number of transactions were effected; though, at the close, several animals were unable to find purchasers. Prices may be regarded as from ten to twenty per cent. below those of last year. Vast quantities of hare and rabbit-skins were in former years brought forward for sale at our Candlemas fairs; but an extensive change has taken place on

this as well as other departments of trade; for a great proportion of the hares and rabbits which are killed in our neighbourhood are now sent entire to the Liverpool market, and as a matter of course the skins never find their way back to Scotland. Taking into view therefore the alteration which has occurred in this branch of business, it will scarcely excite surprise when we state that the quantity offered for sale on Wednesday last was not great and prices were dull. Hare skins were selling from 5*s.* to 6*s.* per dozen; rabbit skins from 1*s.* to 1*s.* 3*d.* per dozen. Few English buyers were present.

SHREWSBURY FAIR afforded considerable gratification to the farmers of Wales and the surrounding counties, by the great accession of purchasers to the market, and the rather increased prices obtained. Sheep were not numerous in the pens, and were rapidly bought up at nearly 6*d.* per lb., both large and small. Stores were few and in no demand. Pigs were all sold early at about 5*d.* per lb. and Stores were excessively dear. On Wednesday the supply of prime fat cattle was very good, but the number of buyers was beyond precedent, and everything excellent was early carried off at nearly 6*d.* per lb., while inferior cattle were bought up at 5*d.* to 5*d.* per lb. Cows with calves were sold at good prices; other store cattle were scarce and in little demand. The supply of bacon was plentiful, and almost all sold at 6*d.* to 6*d.* per lb. Butter was also in good supply, and many new purchasers in the market, attracted, no doubt, as much by the high character of the article as by the vast quantity offered for sale, and prices varied from 11*d.* to 1*s.* per lb. for tub butter, and 10*d.* to 11*d.* for lumps. Cheese was not an overabundant supply; but the demand was great at the following prices:—Skims, 32*s.* to 35*s.* per cwt.; middle dairies, 45*s.* to 50*s.*; and the best, 55*s.* to 3 guineas.

At STIRLING CANDLEMAS FAIR the show of black cattle was limited. Cows calved or near calving were in demand, and brought from 8*l.* to 10*l.* 10*s.* Queys from 6*l.* to 7*l.* 10*s.* Half fed cattle were dull, and sold from 10*s.* to 15*s.* a-head under last year's rates; from 4*l.* 10*s.* to 7*l.* were the prices obtained, and a number unsold. The show of horses was uncommonly large, and a great proportion were unsold. Good draught horses, from six to nine years old were in most request, and ranged from 15*l.* to 24*l.* From 30*l.* to 35*l.* were demanded for good young horses, but few of that description changed owners.

CASTLE-DOUGLAS CANDLEMAS FAIR.—The show of horses, owing we presume, to the state of weather, was not large; the quality, however, of a number shown was very good. Superior horses met with a brisk sale, but the demand for good serviceable work horses was slow, and prices were deemed to be low. An excellent draught horse sold at 53*l.*, a pair of ditto at 90*l.*, others at 40*l.* and 38*l.* each. There were few dealers from the Dumfries quarter, the greater number were from Ayrshire, and they did not seem to be very anxious to drive bargains except for superior horses; consequently the amount of business done was limited. We understand that a number of good horses in the neighbourhood were not shown, from an impression that labour will be behind, and that the services of all will be required. It is much to the credit of the horse breeders of the district that so many fine horses are regularly shown at our at our fairs; and, while this continues to be the case, there is no danger of the want of dealers, and good prices being experienced.—*Dumfries Times*.

At NORTHALLERTON GREAT HORSE FAIR Mr. B. Wilson, of Brawth near Thursk, sold five horses, each rising five years old, by Duncan Grey, for 550 guineas; immediately after, the purchaser sold one of them for 200 guineas. So great was the number of horses during several of the days at this great fair last week that though there is stabling for upwards of 3,000 horses in the town of Northallerton, yet many had to be sheltered in the neighbouring villages of Brompton, and Romanby and at some farm houses also.

BRIDGNORTH FAIR.—Fat sheep sold at from 6*d.* to 6*d.* per lb.; and fat cattle at from 5*d.* to 6*d.* per lb.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF FEBRUARY.

The severity of the weather during the greatest portion of the previous month, has proved a severe test to vegetation, and the fields deprived of their covering of snow, have exposed the young plants to all the intensity of the cold. Turnips, especially the Norfolk whites and Swedes, have suffered from the rigour of the season, and it is much to be feared that severe havoc has been made with apples. The latter seasons having proved mild, has occasioned growers to be less careful in securing with sufficient depth of earth their potatoes, or defending with coatings sufficiently thick their clumps of mangel wurzel, and apprehensions are too well entertained that both these valuable roots will be found to have received considerable injury; as far however, as the investigation of potatoes has gone, the destruction is less than anticipated, but length of time has not yet elapsed since the thaw to ascertain to any extent the decided result of the wintry ordeal, and it is to be hoped that the *dictum* will prove correct this season, that when the pits are not opened until entirely unfrozen, the potatoes will receive no damage. We observe some agriculturists are adopting the plan of forthwith boiling their potatoes and apples found frozen, and when mixed with barley and meal make a very nutritious and fattening mess for pigs; as both esculents are almost certain of rotting when they thaw. Feeds are not unlikely to become dearer, and the effect will be a pressure for a time of lean stock on the markets. The young wheats though nipped, and on the tops of the ridges severely frost-bitten, are still considered free from *radical* injury, the known strength and vitality of the plant removing much apprehension for its ultimate recovery. Tares are much less injured than could have been expected. Winter tares have stood the test of the cold, and have in most instances shown themselves proof against the severest trials of climate. Peas, planted just before the setting in of the frost, are likely to have been deprived of all germinating power, and no doubt much of the land will have to be re-sown. The frost however, has so far benefitted the land by the destruction of the quantities of charlock and other noxious weeds, that the mildness of the weather had previously encouraged the growth of, and little doubt can be entertained that the grubs and destructive insects which have infested the fields of late years will be nearly annihilated.

The grain markets have been mainly influenced by the weather. The supplies, owing to the frozen state of the water communication, and the impediments offered to land carriage by snow and thaw, have been extremely limited; but as millers have been prevented from working from either the absence of wind, or the water-mills clogged with ice, the demand has been reduced to a very narrow compass; indeed, it has been a general remark of surprise the capability millers have evinced of meeting the increased demand for meal, which always is attendant on frosty weather, without having been obliged to have recourse to fresh supplies; exhibiting to conviction how fallacious

have been all previous calculations of the exhausted stocks of the raw material in the hands of the manufacturers, and ought to create a fresh example of warning to sanguine speculators, showing the hopelessness of any certainty being attached to their predictions. Holders, however, from the scarcity of samples, have in instances realized rather higher rates on the advance noted to have taken place during January; while on the other hand the improved condition and quality of the samples have in reality added little to the actual value of the article from the commencement of the year. Barley has sustained little variation in price; fine qualities for malting form a very small proportion of the various bulks offering and though prices have receded fully 4s. to 5s. per qr. since harvest, yet the quantity of malt manufactured this season is comparatively very limited. Oats have remained generally firm.

The weather in Scotland has also acted as an impediment to the transaction of all regular business. Most of the mills being frozen up, millers have bought very sparingly, and though the want of animation in the London markets would in the usual course have had a depressing influence on the currencies, yet the farmers, appearing confident in their opinion of a deficiency in the yield of wheat this season, prefer holding for higher rates, a sequence in the state of rural affairs, in which they seem generally to concur. Barley of the finer qualities has met more attention for malting and sowing, and selected parcels have realized rather higher rates; the same is the case with the prime parcels of oats, but the stained and ordinary parcels of Barley continue a complete drag on the market, owing to the stoppage of several of the distilleries, a fact we have previously alluded to.

In Ireland most of the previous remarks are applicable to the state of the markets. The trade dependent on the inland communication for the amount of supply, have bought sparingly of all articles, and prices have sustained little variation. In wheat little speculative feeling is, however, prevailing, and prime qualities tending towards an advance. Attention, also, is beginning to be directed towards Oats, and as reason is brought to bear in favour of the article, and more than is usually applied to speculative objects, it will be desirable to detail some of the current opinions conducing to the belief of a future advance in the value of the article;—an exhaustion of all the stocks of the old produce on the securing of the new crop, and therefore its premature consumption, which may be estimated at nearly two months—a deficient crop in England, and limited breadth cultivated, a moderate average in Scotland, and not superabundant in Ireland—an increased consumption, owing to the severity of the weather—a material superiority in quality and condition of the present yield, especially in Ireland, compared with the return of 1836, and which in Irish common feed samples is estimated by some at least at 20 per cent—besides money being plentiful and readily attainable at 3 to 3½ per cent—as these do not appear *shadowy* but *substantial* data as likely

to tend to an enhancement, we have merely alluded to those circumstances combined, which appear to "make out a case."

From Liverpool it is remarked that oats are at a very low value compared with wheat; at this time last year whilst the best Irish red wheat was sold at 8s. 8d., fine oats brought 3s. 10d., this quality of wheat is now worth 8s., and oats not more than 2s. 10d. per bushel, in fact taking the price of wheat as the point of comparison, oats are relatively lower than they have been for some years.

Barley has been firm and some of the shipments have fetched good prices. In the Western Ports of England, malting parcels have obtained 34s. per qr., and given satisfaction to maltsters. An improvement in the growth of the article which we hail with gratification.

In Mark Lane, though no animation can be reported as having pervaded the trade in Wheat, or in fact any other grain, yet a firmness has been maintained, characteristic of an improved feeling towards the article. Opinion seems justly forming, that the prices will be more than usually dependent on the disposition of the growers, as there is little stock of free wheat in other hands, and in reference to the supplies of wheat from Ireland to our western ports, to which part of the kingdom the exports are mainly directed of wheat and flour, they have fallen far short of the arrivals anticipated from the favourable reports, at the time of harvest of the crop in the Sister Isle, and from the late tendency to improvement in value, and inadequate supplies in proportion to the demand, it now appears likely that the surplus in the West and South where the crop is said to be very good, will not exceed to any great extent, the demands likely to be made from the North and East, where the yield is deficient, while at the same time the future currencies will be liable to considerable influence from month to month by the appearance on the grounds of the forthcoming crops.

A little speculative demand has existed for bonded wheat for shipment, partially to America, North American Colonies, Madeira, West Indies, and Channel Islands, the sales have been mainly confined to Lower Baltic red qualities, at from 30s. to 33s.; extra held at 34s.; Danzig, 36s. to 38s.

The barley trade latterly, owing to the accumulation of cargoes detained by the ice, has been glutted with samples, and being mostly of inferior quality, distillers bought sparingly, leaving a large surplus of coarse thin parcels almost unsaleable; prime malting as well as heavy sweet distilling descriptions have supported full rates. Chevalier barley is noted at 30s. to 31s.; bright, 31s. to 32s.; fine, 33s. to 34s.; Norfolk and Suffolk malting, 30s. to 31s.

The importation of oats has been large since the navigation of the Thames became free, amounting to 91,700 qrs., of which 76,000 qrs. were from Ireland. Dealers and consumers during the frost, in expectation of increased supplies, held off from purchasing to the last extremity, and the thaw came opportunely to their aid, in causing samples to flow in. They were, however, obliged to buy freely, and considerable progress has been made towards effecting a clearance, factors with few exceptions maintaining the current quotations, which are about 1s. per qr. dearer than before the frost set in. Speculative feeling is being directed towards the article as noticed in a previous paragraph in reference to Ireland.

With Ireland, free on board, the business transacting has been on a limited scale; the quotations may be

noted as follow:—Galways, 9s. 3d. to 9s. 6d., and for forward months, 9s. 9d. to 10s.; Limericks, 10s. 6d. to 11s., for forward deliveries, 11s. 6d.; Westport, Ballina, and Sligo, 10s. 6d. to 11s., forward, ditto, 11s. to 11s. 3d.; Derrys, 11s., forward, ditto, 11s. 3d.; Newrys, 11s. 6d. to 11s. 8d., forward, ditto, 12s. per brl. free on board; from the nearer ports nothing passing of any import.

Beans have given way about 1s. per qr., and are steady at the reduction. White peas have hung heavily on hand and are 1s. to 2s. per qr. lower. Grey and maple are also 1s. cheaper.

At Sydney by the latest advices wheat has sustained little variation in price; Sydney qualities were noted worth 6s. to 8s., Derwent do. 7s. to 9s. 6d., making a general average of 7s. 10½d. per bushel. Fine flour 23s. per 100lbs., but in consequence of the great stock of inferior wheat on hand the price of seconds flour has been reduced to 15s., and ration flour to 13s. per 100lbs. Hobart Town wheat noted at 8s. 3d. to 9s.; Launceston do. 7s. 9d. to 8s. 3d.; English barley, 4s. to 5s. 6d., Cape, 57s.; Oats, New South Wales, 3s. 6d. to 4s.; Derwent, 8s. to 9s. per bushel, maize, 3s. 3d. to 3s. 6d.

At Halifax on the 5th Feb. American flour was steady at 50s., for new superfine in bond; fine, 42s. 6d. in do. Quebec fine, 50s. to 55s., middlings, 47s.; Hamburg, 45s. Pilot biscuit per brl. 35s.; Oats, 2s. to 2s. 6d. per bushel. Barley, 3s. 9d. per bushel of 52lbs.

By the latest advices from Canada of the 25th of January, little information has been received respecting the grain markets; the rebellion lately existing in the colony has been the means of breaking up many business connexions and diverting the thoughts of all from their legitimate occupations, and therefore the demand has been limited to the narrowest circle. It is, however, to be hoped, that the agitation will now sufficiently subside to allow business to resume its wonted course. At Kingston, Upper Canada wheat was quoted at 5s. per bushel; barley, 3s., and Oats 1s. 6d.; Rye, 3s.; Peas, 2s. 9d. to 3s.; Flour, 18s. to 20s. per cwt.

From Port Louis, *Mauritius*, of the 29th Nov., we learn that European wheat was firm at 3 dol. to 3 dol. 50 cents. for 100lbs.; do. Cape, 5 dol. to 5 dol. 50 cents.; Bombay do., 3 dol. to 3 dol. 50 cents. per bag of 150lbs.; European and Cape barley, 2 dol. to 2 dol. 50 cents. per 100lbs.; European Oats, 3 dol. to 3 dol. 25 cents. per 100lbs.; Cape do., 4 dol. 23 to 50 cents.; French flour, per brl. of 180lbs. 10 to 12 dol.; American, 8 to 10 dol.; Cape do., per 100lbs. 7 to 8 dol.; Danzig do., per 180lbs., 8 to 10 dol. Exchange on England, government bills at 30 days sight, 1½ per cent. premium; private do., 2 to 3¼. Memorandum: 100lbs. French equal to 108lbs. English. Current dollars worth 4s.

In France, the markets having been kept bare of supply by the frost, and the inland communication not being restored, though the thaw had commenced, had induced holders to demand higher rates, and prices generally are noted dearer for the better descriptions of Wheat. At Paris the rates had advanced to 29 francs per hectolitre, and 50 cents more money was demanded, equal to about 44s. to 44s. 9d. per qr. Rumours were prevalent that the young Wheats had suffered from the severity of the weather, especially the partial thaws, succeeded by frost, but it is generally calculated, that though the Wheats look sickly, yet it is premature passing any opinion as to positive injury having been yet sustained. At Bordeaux, the demand for Wheat being confined entirely to the local consumption, had ren-

dered the trade dull, and notwithstanding the depreciation which the article has already sustained, still it was bearing a disproportionate value with the price of Flour. Three or four foreign vessels had arrived laden with Wheat, which had been placed in granary with the view of re-shipment to Spain on the first favourable opportunity. At Marseille, Wheat for the consumption was held rather more firmly, and foreign parcels in bond had advanced 50 cents. per hectolitre, several sales having been effected for shipment, it was understood, to the Spanish coast. Soft Odessa Wheat had obtained 30s. 3d. to 31s. 3d. per qr.; soft Danube qualities realized 30s. 3d. to 30s. 8d. per qr. The stock of free Wheat comprised 70,000 charges of native Wheat, equal to 39,375 qrs., and 30,000 charges, or 16,875 qrs. of foreign.

The advices from St. Petersburg intimate a dullness of trade, and the prices of grain too high to induce purchasers for shipments, especially of oats, which are of inferior quality. Kubanka wheat remains at 31s. 6d. to 33s. per qr.; oats, 10s. 6d. to 11s. per qr.; the crop of oats have been abundant, but of wheat, and particularly rye, inferior. At Königsberg the secondary qualities of wheat are bearing high rates, owing to the failure of rye and increased demand for wheat to meet the failure. From Danzig, the accounts from Poland appear to be extremely calamitous, through the failure in rye and decay of potatoes, owing to the intensity of the frost, which has lasted since the 22d of December.

Wheats were steady in value, wheat samples, 33s. to 36s., high mixed, 31s. to 34s., mixed, 28s. to 30s. Rye was held at rates equal to 24s. per qr. free on board. Owing to the high prices obtained in the interior, the misery endured by the poor at this inclement season of the year, continued unabated. Co-equal with the advance in grain, provisions of all other descriptions were being enhanced. Beef was selling at high prices, as well as salted provisions, especially pork, which had risen to 70s. per brl. of 200lbs. free on board. At Stettin little business was transpiring on the 14th inst., except for the local necessities, but holders were not inclined to accept lower prices for their wheats. The trade with the United States appears on the increase during the past year, nine cargoes of grain, chiefly rye, having been shipped to New York, and one vessel freighted with corn to Baltimore. In the Mecklenburgh and Holstein ports little transpiring, prices having sustained no variation with the exception of rapeseed, which is obtaining higher prices; and at Flensburg 22l. 18s. has been paid. At Rostock, wheats were held at 27s., and the stocks of old much reduced.

At Hamburg, the navigation of the Elbe continued closed, and trade languid; a few sales of old Upland wheat for grinding had been made, at 32s. to 33s. per qr., and offers for delivery in spring were making at from 29s. 6d. to 31s. 3d. for weight of 59 to 61 lbs. Saale Barley of 59lbs. was held at 18s. 3d., and Neustadt ditto, of 52½lbs. at 15s. 9d. Rapeseed had advanced in price, owing to the receipt of orders from Belgium and France, and reported injury to the young plants from the severity of the weather, especially in Holland, Upland seed being noted at 23l. 18s. per last; Elbe and Hanoverian 23l. 15s.; Eyder, 23l. 15s. to 24l. 2s.

In Holland the crops of wheat and winter barley are stated to have suffered from the frost, and rapeseed in some parts reported to be completely destroyed. At Rotterdam, wheat was obtaining improved quotations; prime old Zealand having realized 41s. 4d., and good samples, 39s. Rye was

also dearer, distillers paying as much as 29s. to 20s 2d. for quality of 55 to 56lbs.

The American markets afford little incentive at present to increased speculation on the part of European shippers. The trade generally is dull and declining, and the prices of flour are indicative of no apprehension being entertained of any deficiency of the supplies. At New York, Western Canal flour was nominally worth 8 dollars; and good white Danzig wheat selling at 1 dollar 65 cents; red German 1 dollar 50 cents., and white 1 dollar 62½. At Baltimore the store price of Howard-street flour was 75 cents, to 8 dollars. Wheat meeting little attention, and some prime German lately arrived had been offering without finding a purchaser. Native red wheats, of best quality were 1 dollar 65 to 70 cents. At Philadelphia, sales of flour have been made at 8 dollars for export. Wheat and rye nominal. The weather was extraordinarily mild, and during the whole of December up to the 20th of January the thermometer had seldom sunk as low as the freezing point. At New Orleans, flour was firm at the reduced rates of 7 dollars and 25 to 50 cents. per brl. as there was a quantity shipping for the Northern American markets; the stocks, however, were accumulating.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		FEB. 1.		MARCH 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	to 60	50	to 60	50	to 60
White.....	52	65	52	65	52	65
Norfolk, Lincolnshire and Yorkshire... 48	60	48	60	48	60	48
White, do. do.	50	62	50	62	50	62
Irish Red	44	48	44	48	44	48
Ditto White.....	50	54	50	54	50	54
Barley, Malting, new	30	33	30	33	30	33
Chevalier, new.....	35	37	35	37	35	37
Distilling	27	30	27	30	27	30
Grinding.....	23	26	23	26	23	26
Irish	22	25	22	25	22	25
Malt, Brown.....	38	44	38	44	38	44
Ditto, Chevalier, new and old	58	62	57	62	57	62
Ditto, Norfolk and Suffolk Pale, do.	54	57	54	57	54	57
Ditto Ware	55	58	54	58	54	58
Peas, Hog and Grey.....	30	32	29	31	30	32
White Boilers	32	33	30	32	32	33
Beans, small.....	36	39	35	38	36	39
Harrow	34	37	33	36	34	37
Ticks	32	36	32	35	32	35
Mazagan	34	39	34	38	34	38
Oats, ENGLISH feed.....	21	23	21	23	21	23
Short small.....	22	23	22	26	22	26
Poland.....	23	27	23	27	23	27
Scotch, Common.....	20	23	20	23	20	23
Berwick, &c.	22	25	22	25	22	25
Potatoes, &c.	24	28	24	24	24	24
Irish, Feed	18	21	19	28	19	28
Ditto Potatoe	21	24	21	21	21	21
Ditto Black	19	21	19	21	19	21

PRICES OF FLOUR,

	Per Sack of 280 lbs.		FEB. 1.		MARCH 1.	
	s.	s.	s.	s.	s.	s.
Town-made.....	52	to 52	52	to 52	49	to 52
Norfolk, Suffolk, Kent, and Essex	45	46	42	44	42	44
Sussex and Hampshire.....	42	44	40	42	40	42
Superfine	46	—	44	—	44	—
Lincolnshire, Yorkshire, and Stockton. 40	42	39	41	39	41	39
Northumberland, Berwick, and Scotch. 40	42	39	40	39	40	39
Irish	40	42	39	40	39	40
Extra	44	—	42	—	42	—

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BONDED WAREHOUSES IN LONDON ON THE 5TH FEB.

Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.	Flour.
qrs.	qrs.	qrs.	qrs.	qrs.	cwts.	cwts.
267,168	9,868	68,550	437	1,451	2,885	43,341

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th Feb. 1838; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity Exported.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	...	358 0	7155 6
Ditto Foreign.....	1791 0	18 7	569501 0
Barley.....	...	3 0	35791 3
Oats.....	840 4	236 1	248989 1
Rye.....	...	...	11388 3
Beans.....	116 0	20 7	5299 3
Peas.....	86 6	24 4	21531 7
Indian Corn.....	3 0	19 5	2433 0
Flour from British Possessions.....	861 2 23	4156 2 0	19477 0 24
Ditto Foreign.....	11982 3 7	20 0 15	147252 0 17
	cwts.qrs.lbs.	cwts.qrs.lbs.	cwts.qrs.lbs.

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Weekending 12th Jan.	52 11	28 10	20 1 27	7 33 4	32 8	
19th ..	53 7	28 9	19 11 27	11 33 6	32 7	
26th ..	54 10	28 9	19 11 30	8 33 4	32 5	
2nd Feb.	55 4	29 0	19 11 29	1 32 8	32 4	
9th ..	55 4	28 10	20 0 27	7 32 11	32 7	
16th ..	52 3	28 9	20 0 29	6 32 7	32 9	
Aggregate Average of the six weeks which regulates the duty.....	54 7	28 10	20 0 28	8 33 1	32 5	
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	32 8	19 10	16 9 27	3 19 9	21 3	
Do. on grain from British possessions east of Europe.....						
Foreign Flour 19s. 8d. per 196lbs., British Possessions Ditto 3s. per 196lbs.						

COMPARATIVE PRICES OF GRAIN.

WEEKLY AVERAGES by the Imp. Quarter, from the Gazette, of Friday last, Feb. 23, 1838.	AVERAGES from the corresponding Gazette in the last year, Friday Feb. 24, 1837.
WHEAT..... 55 3	WHEAT..... 55 9
BARLEY..... 28 9	BARLEY..... 32 10
OATS..... 20 0	OATS..... 23 3
RYE..... 29 6	RYE..... 36 17
BEANS..... 32 11	BEANS..... 37 7
PEAS..... 32 9	PEAS..... 37 8

PRICES OF SEEDS.

FEB. 26.

The demand for Cloverseed to-day has been far from animated. There was a fair show of fresh samples, but fine seed continuing scarce supported the previous quotations, and which they are likely to do till the navigation of the northern ports are opened, as there are large supplies ready to be shipped to our coast. Low foreign samples met also some inquiry, but secondary samples were difficult of disposal. The imports of foreign Cloverseed during the week, consisted of 25 casks and 398 bags from Havre, 43 bales from Boulogne, 41 bags and 41 bales from Bordeaux, and 10 tierces of grass seed from New York. Trefoil sustained no variation. Rapeseed dull, and Linseed though not quoted cheaper is dull sale. In Caraway and Coriander no variation. Mustardseed steady, but Canary very difficult of disposal. Fine spring Tares move off slowly at 4s. 6d. and extra held at 5s. Winter Tares dull, at 4s. to 4s. 3d. per bushel.

PRICE OF HOPS.

BORO', FEB. 26.

The demand for Hops is moderate without any alteration in prices.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent Pockets, from.....	4 4	4 15	superfine.. 5 12
Bags.....	4 0	4 10	5 5
Mid Kent Pockets.....	3 15	4 10	5 5
Bags.....	3 15	4 4	5 0
Weald of Kent Pockets.....	3 10	4 2	4 10
Sussex do.....	3 3	3 15	4 4
Yearlings.....	2 2	3 3	3 10
Old.....	1 10	1 15	2 10
Old olds.....	0 18	1 5	1 10

WORCESTER, (Saturday last).—We have had a better supply of Hops to-day than for several weeks past, and the demand being limited, the prices of last market day, were with difficulty maintained, generally, however, the planters would not accept lower prices, and many hops remained unsold in consequence.

WOOL MARKETS.

BRITISH.

	Per lb.	FEB. 1.	MARCH 1.
	s. d.	s. d.	s. d.
Down Tegs.....	1 5 to 1 6	1 6 to 1 7	
Half-bred do.....	1 5½ to 1 6½	1 6½ to 1 7½	
Ewes and Wethers.....	1 2 to 1 3½	1 3½ to 1 4½	
Leicester Hogs.....	1 3½ to 1 4½	1 4 to 1 5	
Do. Wethers.....	1 1 to 1 2	1 2 to 1 3	
Blanket Wool.....	0 9 to 1 0	0 10 to 1 1	
Flannel.....	1 0 to 1 4	1 0 to 1 4	
Skin Combing.....	1 0½ to 1 1½	1 0½ to 1 2	

WAKEFIELD, Feb. 23.—Our trade remains in the same uninteresting state as reported last week.

CHIPPENHAM.—The third Wool market, for the season, at Chippenham, is appointed to be held on Friday, the 2nd of March.

CHESTERFIELD, Feb. 19.—Since our last report on Wool, the trade has experienced a retrograde movement, accompanied with considerable depression; buyers are quite shy at purchasing, and it is the general opinion that the present prices cannot be sustained, but will be subject to a further diminution.

EXETER.—This market opened under the most favourable auspices to those having York Wool to sell, as a very large Manufacturer, finding that little business was to be done on lower terms, at once offered one shilling per lb. for it. We have therefore to quote York Wool at 12d.; and WASHED WOOLS—Knott, 14½d. to 15d.; Dorset Horn, 16d.; and Marsh Wool, 18d. per lb.—In Sorts there is little variation—Broad Head being from 9½d. to 10d.; Kent Head, 11d.; Red, Green, and Pinions, 11½d.; Fine Head, 13½d.; Fell Combing, 14d.; Cornish Stripe, 13½d. to 14d.; North Devon Stripe, 14½.; and Tops, 18½. to 19d. per lb.

LIVERPOOL, SATURDAY, FEB. 24.

FOREIGN.—The bids at the late public sales have firmly established the advance quoted in our last. A fair number of transactions were effected during this week in Mogadore, East India, and Peruvian Wool at full prices. The arrivals are principally formed of Peruvian.

Imports for the week, 1,414; previously this year, 5,727; total, 7,141.

SCOTCH.—We have had no arrivals of any consequence this week of laid Highland wool, and the inland navigation being still closed, we have no transactions to report. There has been several lots of laid Cheviot sold this week at our highest quotation, for delivery on the opening of the navigation.

	per stone of 24lbs.	s. d.	s. d.
Laid Highland Wool, from....	10 6 to 11 0		
White do.	13 0	13 6	
Laid Crossed do.	14 0	15 0	
Washed do.	16 0	16 6	
Laid Cheviot, do.	16 0	17 0	
Washed do.	23 0	25 0	
White do. do scarce.....	28 0	32 0	
Import for the week.....		94 bags.	
Previously this year ..		2751 do.	

SCOTCH.

Per Stone of 24 lbs.	FEB. 1.		MARCH 1.	
	s. d.	s. d.	s. d.	s. d.
Laid Highland Wool, from.	10	0 to 10	6	10 to 11
White Do. Do.....	13	0	13	6
Laid Crossed Do.....	14	0	15	0
Washed Do. Do.....	15	0	16	6
Laid Cheviots.....	16	0	17	0
Washed Do.....	23	0	25	0
White Do.....	28	0	30	0
			28	0

LIVERPOOL WOOL SALES.—On the 15th and 16th inst. there were brought to auction about 3,000 bales of Wool, including 1,400 of Australian and Tasmanian; of the latter descriptions the whole found buyers, and also the bulk of the other various sorts. The attendance of both staplers and manufacturers was very numerous, almost without precedent, and the sales went off with considerable briskness, which was in some measure assisted by the continuance of frost, thereby preventing the colonial and other Wools bought at the late London sales in January being forwarded into the manufacturing districts; whereas from this port, the railway to Manchester affords a great advantage, as the transmission by waggons onwards can be easily effected, and at a very moderate expense. The following is the result of the sales:—

AUSTRALIAN.—407 bales fine clothing and fine combing, sold at 2s. to 2s. 4d. per lb.; 697 do. good clothing and fair combing, 1s. 8½d. to 1s. 11½d.; 46 do. very low combing and coarse combing, 1s. 5½d. to 1s. 8d. 85 do. unwashed and refuse, 1s. to 1s. 5d.; 11 do. very low do., 9½d. to 11d.

TASMANIAN.—34 bales good clothing and fine combing sold at 1s. 10½d. to 2s. 2d. per lb.; 90 do. middling clothing and combing, with a few lambs, 1s. 6d. to 1s. 10d.; 2 do. unwashed and refuse, 1s. 1d. to 1s. 4d.; 15 do. Swan River also sold at 1s. 4½d. to 1s. 6½d.

These rates establish an advance of 25 per cent. on the last sales held here in September, 1837, particularly on the combing sorts. The condition in most instances was tolerably fair, but in this respect it must be noticed that the clips of 1836 and 1837 have been nothing equal, in point of condition, in comparison with those a few years previously, attributable, in a great degree to the want of additional labourers in the colonies, and in some measure to scarcity of water in some districts.

The other sorts of wool sold as follows, realizing an advance in most instances of 20 per cent. on the September prices, viz:—17 bales German, 1s. 2d. to 1s. 8d. per lb.; 125 do. Spanish, 1s. 5d. to 1s. 10d.; 22 do. Portugal, 1s. 2½d.; 11 do. Cape, 9d. to 1s. 5d.; 29 do. Italian, 8d. to 1s. 5d.; 84 do. Peruvian, 8d. to 9d.; 100 do. Mogadore, 8½d. to 9½d.; 150 do. Turkey, 6d. to 8½d.; 427 do. East India 3½d. to 9½d.; 200 do. Cordova and Buenos Ayres, 5d. to 10d. for washed, and 3d. to 5d. for grey and unwashed. The result of these sales evinces a satisfactory reaction in trade in the woollen districts within the last few months. —*Liverpool Times.*

FOREIGN.

FEB. 26.—Fine Spanish and German wools are in request, at fully previous quotations; but the business doing in other kinds of foreign wools is by no means brisk. The quantity of foreign wool now on sale is rather large—particularly of Colonial wools, the general quality of which is tolerably good.

Electoral Saxony wool, from 4s. 0d. to 5s. 2d.; first Austrian, Bohemian, and other German wools, 3s. 2d. to 4s. 0d.; second do., 2s. 0d. to 3s.; inferior do. in locks and pieces, 1s. 6d. to 2s.; German lamb's do., 2s. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonesa sheep's do., 2s. to 3s. 2d.; Segovia do., 1s. 8d. to 3s.; Soria do., 2s. to 3s. 0d.; Caceres do., 2s. to 3s. 2d.; Spanish lamb's do., 1s. 6d. to 2s. 6d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal sheep's do., 2s. to 3s.; ditto lamb's ditto, 1s. 6d. to 2s. 6d.; Australian, fine crossed do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Diemen's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 4d. to 2s. 10d. per lb.

SYDNEY, Oct. 12.—From the acknowledged scarcity of labour in this Colony it has been long our opinion that it would be advisable to restrain the multiplying of sheep, as the growth of the staple wool cannot otherwise be attended with advantage or profit. Our flockmasters would do well, therefore, to turn their attention to the quality rather than the quantity of the fleece produced, and not as hitherto to look too early for an increase of their clip. The present value of wool here is 1s. 6d. per lb., and freights to London for this article rule at 2d. per lb.

CAPE OF GOOD HOPE, Dec. 26.—The Cape of Good Hope Agricultural Society has offered a prize cup of 50l. value for the finest sample of wool, each sample to contain 100lbs. at least, in fleeces only, and to be the clip of sheep produced in the colony.

MAURITIUS, Oct. 31.—No variation has occurred in the price of English blankets or broad cloths.

HAMBURGH, Feb. 16.—There continues to be a fair amount of business transacted in wool.

ROUEN, Feb. 17.—Business has been active in the Cloth Hall here; the attendance of foreign buyers, who purchased extensively, being very fair. Prices have been well maintained, but there has been no rise. It is a singular circumstance that with an active demand for woollen fabrics the quotations are supported with such difficulty, and that the manufacturers continue to sell at a loss.

RHEIMS, Feb. 18.—There has been a very good business doing in flannels here all the week, and an amelioration in prices has evidently occurred. In wool, affairs have been less animated, the stocks on hand not being large, and holders being unwilling to accede to prices which would leave a fair profit to the manufacturers. Late prices are, however, well supported.

ANTWERP, Feb. 20.—There have been a few sales of Turkey and South American wools during the last few days at steady quotations.

The imports into London from the 15th to the 21st inst. have been very small, amounting only to 112 bales. Of this quantity 93 bales were from Turkey, 17 from Germany, and 2 bales from Spain.

The exports in the week ending on Thursday last, were 22,003 lbs. all to Belgium.

Wool on which the Home Consumption Duties have been paid at London, Bristol, and Hull, during the last week:—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Sheep, Spanish, London .. lb.	475830	295682
Bristol lb.		
Australian, London lb.	69305	23961
German and other Sorts, do. lb.	1508560	2433029
Do., Hull lb.	792662	357346

POTATO MARKET.

SOUTHWARK, WATERSIDE, Feb. 26, 1838.—The liberal supply of Potatoes as quoted in our last report, has been followed by a very limited one during the past week, and are as follows:—viz., from Yorkshire, 130 tons; Scotland, 60; Devons, 65; Jersey and Guernsey, 440; Kent and Essex, 105; making a total of 800 tons only, consequently salesmen have been enabled to clear off nearly the whole supply at liberal prices; although the weather has decidedly changed, and is now much milder. The effects of the late severe frosts upon all kinds of green vegetables must be felt for some time to come. The demand for best qualities is good, and likely to continue;—annexed is the present rate of prices:—

Per ton.			
York reds	—s 100s	Jersey Whites	—s 60s
Do. kidneys	—s 90s	Jersey and Guernsey	
American Natives ..	—s 80s	Blues	—s 65s
Scotch reds	70s	Kent, and Essex	
Devons	—s 75s	Whites	60s 70s





THE
LARGE
DOG
OF
THE
FARM
AND
COUNTRY
HOUSE

By J. G. S. & Co. London, 1833.

THE FARMER'S MAGAZINE.

APRIL, 1838.

No. 4.]

[Vol. VIII.

THE PLATE.

"Hecatomb," a short-horn bull, the subject of our first Plate, was bred by, and is still the property of Earl Spencer. It would be a work of supererogation upon our part to dilate upon the Noble Earl's character as a breeder. In adding, however, that his Lordship's exertions to uphold and improve every department of British Agriculture entitle him to the gratitude of his countrymen, we feel convinced that we utter a sentiment which will be warmly responded to by all who duly appreciate the appropriation of time, of talent, and of means, to the benefit of the country,—which are but too often expended by individuals of the same class in unworthy and profitless pursuits. The pedigree shows "Hecatomb" to be descended from the first stock in this country; it traces his family back to the cow which Mr. Charles Collings bought from Mr. Maynard, and from the produce of *which cow* in Mr. Charles Collings' hands *the improved short-horns were produced*. "Hecatomb" was calved on June 14, 1834; he was got by Firby, dam (No. 57, at the Chilton sale,) by Monarch, grandam (No. 13, at the Chilton sale,) by St. Alban's, great grandam (No. 4, at the Chilton sale,) by Jupiter, g. g. grandam by Sir Oliver, g. g. g. grandam (Raspberry) by Trimmell, g. g. g. g. grandam (Strawberry) by Favourite, g. g. g. g. g. grandam (Lilly) by Favourite, g. g. g. g. g. g. grandam (Miss Lax) by Dalton Duke, g. g. g. g. g. g. g. grandam (Lady Maynard Favourite's grandam) by Allcock's bull, g. g. g. g. g. g. g. g. grandam by Smith's bull, g. g. g. g. g. g. g. g. g. grandam by Jolly's bull.

EXPLANATION OF THE PLAN OF BUILDINGS FOR A FARM OF FORTY TO SIXTY ACRES.

This plan is the first of a projected series of farm buildings, beginning with a farm of 40 to 60 acres, and extending to 1000. They are planned for plain accommodation and convenience, without the most distant claim to architectural decoration; that being entirely left to the taste and ability of the proprietor, and built of plain stone and lime, or brick walling, and covered with tiles or slates. The square form is adopted with an open front to the south, so as to comprehend all the houses under one range of roofing, and with no buildings attached to, or projecting on the square. Threshing by machinery is introduced, as performing the work when done by horses at one-third, and by water, wind, or steam, at one-fifth of the expense of flails and timber barns. If the straw produced on the farm does not absorb all the moisture in the yards, an inclination must be given to conduct it to a tank where all the offals and slops may be carried and mixed, so as to give it a firm consistency, or the tank may be divided longitudinally into divisions of different depths, and the liquid

part may be filtered from the higher, into the lower division, through straw tied loosely together, and then raised by a pump. Two kinds of manure may be obtained by this method. On most well managed farms the straw will absorb all the moisture.

In this plan there is a stable for three horses, and a hay house where food may be cut; a spare house for a sick animal or any other purposes, and a small tool house; a cart shed for three carts; a barn, and straw barn, joined or disjointed at pleasure; and a space of ten or twelve feet lofted for storing a few quarters of grain. The threshing machine is of two or three horses' power, with arms and a lying shaft; the machinery on the ground floor, the size of the farm not admitting of the expense of raising a second floor. The doors may be altered to suit convenience. A shed for four cows, and a calf-pen divided into apartments, one calf in each. If the end door admits too much cold, it may be stopped. A house for roots, and a steaming-house; an inside door may be used here at plea-

sure. The poultry-house will be warmer or the steaming-house, and may have a flue; the temperature should not be under 60°. A piggery for three pigs, divided by low walls, under the general roofing supported by two pillars in front. Three yards and sheds for young cattle of different ages. A paved road of fifteen feet. If this road be wanting the yards may be enlarged, or the size of the farmery contracted; but it would be extremely inconvenient; and this road dividing the yards and buildings and giving ready access all round, is one of the greatest improvements ever introduced into the plan of a farmery. Estimate, 300*l*.

The dwelling house is planned upon the same plain and economical scale. A small dairy and other small conveniences may be built in the form of a lean-to behind. The height of the walls may be two stories in full, or a story and a-half, with the windows in the roof. Estimate, 160*l*.

The height of the walls of the farmery is seven feet; the barn may require a foot or two more. The expense of buildings on small farms is much greater than on large farms; the small divisions being all required, which, a little enlarged, will suit a farm of four times the size. When a farm reaches 300 acres a due proportion may be obtained. Locality will always render alterations necessary, for which no directions can be given.

JOHN DONALDSON.

March 20.

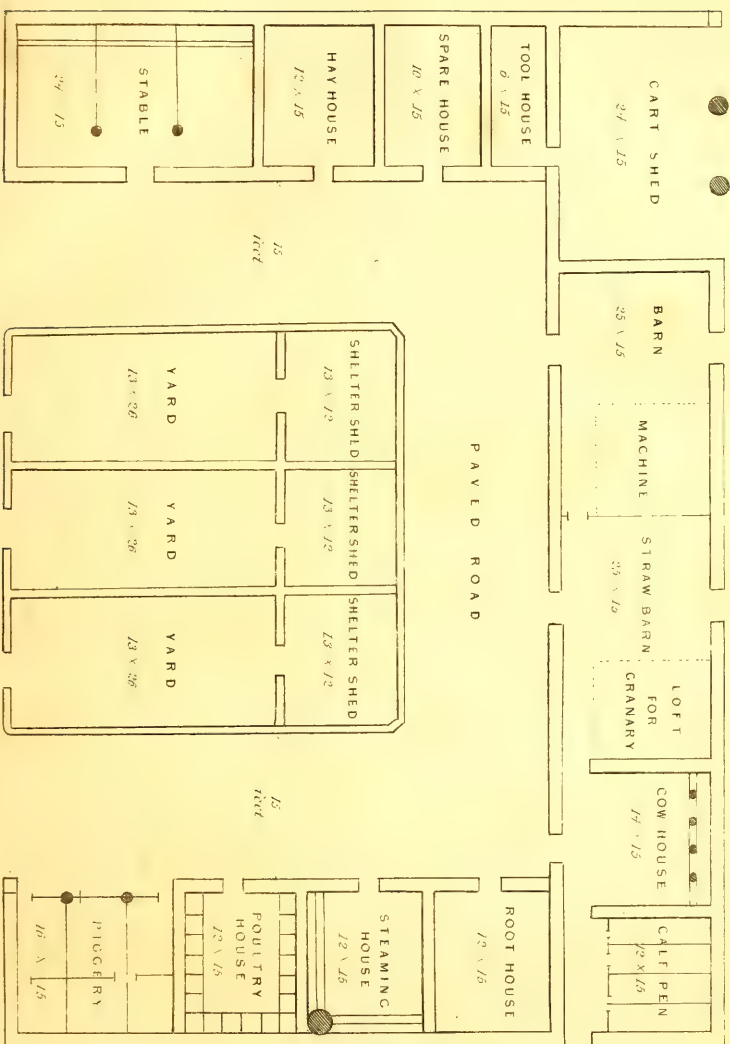
ON THE ADVANCEMENT OF AGRICULTURE.

Of all the arts and sciences that can engage the attention or excite the industry of mankind, agriculture, or the cultivation of the earth, must be ranked amongst the foremost. It does not appear that any people have been yet discovered that were totally ignorant of this simple art, which seems to be suggested by the very dictates of nature itself in providing for the sustenance of man and beast. In the histories of Greece and Rome, those two great theatres of human glory, we find the greatest men in the state engaged in agriculture, whenever the concerns of government afforded any relaxation. Though it is constantly affirmed, and perhaps justly, that it has received, if not more attention, at least as much, in this country as in any other; it is also abundantly evident that it is very far short of that perfection of which it is capable. This conviction is daily enforced by the observation that other arts have left that of cultivation very far behind; and laying aside antecedent causes, and considering every art practised in the present day as on a level with regard to circumstances, there is abundant matter of very serious reflection why the most necessary of all arts, the art on which the whole human race depends for their subsistence, has been allowed to fall so far behind. Circumstances, as I have observed, being in all cases alike, it must be evident to any person that the neglect or successful progress of any art must rest with the professors of that art; and in the case of agriculture, with the landowners and farmers themselves. Of all the bigoted and prejudiced mortals whom the sun shines upon in his circuit round our globe, none can be compared with the cultivators of the soil;

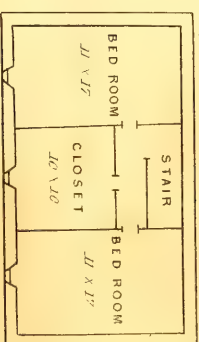
and it is inconceivable by any liberal and enlightened mind how the farmers have acquired such a stock of maxims, axioms and truisms, most of which exist only as fictions of his prejudiced imagination. It has been well observed that there is no freedom, strictly speaking; kings themselves are under restraint, and the rich, and persons in every rank of life are obliged to conform to modes and fashions. Restraint is sometimes imposed on us by power and oppression, a galling restraint, by legislative enactment, by custom and fashion. But of all restraints ever imposed on mankind none is so pernicious and degrading as the restraint we impose on ourselves, for when a man has wilfully and deliberately wreathed around him the chains of senseless prejudice and custom, and fitted them closely in every part, and then looks round with much complacency as if challenging the admiration he thinks is due to him for the clever thing he has done,—there is no more hope of him in this world. The stagnation of agriculture is wholly owing to the cultivators being so enamoured of the habiliments they have so nicely adjusted, that nothing can prevail to induce them to divest themselves of it. At the present day the expence is the insuperable barrier, but if the manufacturers and others had been guided by the same spirit, their art would have been in as backward a state as agriculture; the whole stagnation must be attributed to this want of outlay; the judicious application of that outlay rests with the persons who direct it. But what art has been advanced without expence? agriculture itself has been advanced by it. Manufacturers, mechanics, and artisans strain every nerve to lay hold of, and apply to his art, every improvement that may be offered—farmers reject it scornfully and at once condemn it—"it will not do for them." It would almost seem they are two distinct people, so different is the spirit that actuates those two classes of society; if the landowners would only allow themselves to see that their own interest and that of the farmers, labourers, and manufacturers are inseparably connected, and that the profits of their estates depend wholly on cultivation; if they had the discernment to select, and the firmness to support, such agents as Mr. Blacker, how different would the art of agriculture have appeared at this time; and if the farmers would only divest themselves of the absurd notion that no superior system can be found, if they would purge their visual nerve with a little euphrasy and rue that they may have a glimpse of light over the walls and parapets of their mental prison, the art of agriculture would advance as rapidly as any other. To what resource did Mr. Blacker betake himself in order to improve the state of the lands and tenantry under his charge; to better cultivation? What system did he adopt? the best and most productive he knew of. He broke the enchantment of old turf; he not only recommended, but enforced it, and like all useful persons in any profession, he can both think and act. He does not hold useless meetings and disquisitions which may spend the time of the farmer but never will put a shilling into his pocket; his whole and sole attention is directed to better cultivation and the consequent increase of produce. When do we hear of an agent in England taking the chair at meetings and directing the farmer? In nine cases out of ten they have more need to be instructed themselves; much more is necessary than making up the rent roll, the source whence the rent roll proceeds ought to be the main object of attention.

PLAN OF A BUILDING DESIGNED FOR A FARM OF 40 TO 60 ACRES.

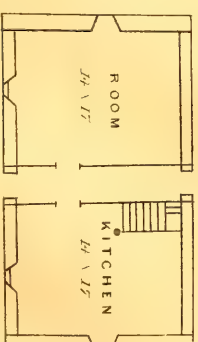
Inclosing one plough, partly or wholly turnip land, producing green crops, and engaged partly in breeding, and partly in dairy stock.



DWELLING HOUSE.



Second Floor.



Ground Floor.

Scale 20 feet to an inch.

The farmers have adopted a certain mode of ploughing and sowing, of old turf and weeds, and the landowners and their sapient agents have confirmed it by their authority; and, as Mr. Morton observes in his "Treatise on Soils," nothing short of some dire necessity will induce them to change it, and when the change is forced upon them, it may not probably be such as they will like. Can anything be more absurd as to pay 4s. 6d. for thrashing a quarter of wheat when means have been long known of producing the same result at 6d.! And can anything be so preposterous as to tell us that the people must be starved in order that Commons, Church, and Crown lands may lie waste and unproductive to fulfil the will of some conscience-stricken dotard of the twelfth century, who, after spending his life in war and plunder, consigned lands, to which he never had any right, for such useless purposes as were pointed out by his ghostly adviser! The earth was given to man for his inheritance—by the sweat of his brow he was to cultivate it for his subsistence. I cordially agree with Mr. Blacker on these points; he assumes as a primary and incontrovertible principle, that the earth must be cultivated to maintain the people, by whomsoever it may be held; and if one person will not cultivate himself, nor allow it to be cultivated, another method must be used that it may not remain unproductive. And can anything be more preposterous than to restrict cultivation, raise a certain quantity of produce, employ a certain quantity of labourers, and then to transport our capital and labour to some distant corner of the globe, merely to humour whim and caprice at home! If our lands were cultivated, labourers would not be found in sufficient number to supply the demand, instead of carrying them to New Holland. In our day we have seen millions of men and money squandered and butchered in cruel and devastating wars, to support tyranny against liberty, and to uphold profligacy and corruption of the deepest dye—we see thousands of hard earned taxes applied to purposes both useless and sinful, which corrupt but never will improve mankind—we see our senators and legislators squabbling and debating about trifles, and the clergy anxious only about upholding old institutions, creeds, and formulas,—while the improvement of the condition of the human race is thrown aside as a minor consideration, or never considered at all. In the last Magazine, Mr Smythies has quoted a passage from the works of the late Bishop of Landaff, one of the greatest and most exalted character of modern times. He was not very highly exalted in his profession, because he differed in opinions from the standard of the day; but he had the far greater merit of thinking for himself, and nature had endowed him with the capability of thinking very rightly. He says he does not boast of any extra share of patriotism, but he would willingly contribute his mite to any sum to be applied to the uses of cultivation, and the consequent improvement in the condition of the people. But not one shilling will ever be got for such a purpose. Instead of applying capital to cultivation, it is expended in building castles to immure the people, and shut them from the light of day, to be fed on a weighed quantity of bread and a measured allowance of porky gruel, as if the earth could afford no more.

Improvements in practice have brought every art to its present state; to them we owe all the comforts of civilized life. Time has sufficiently shown the absurdity of prescribing forms and

standards, where the opinions and interests of men are concerned; yet it is wonderful how long and how steadily the farmers adhere to it. Declamatory speeches and flourishes of rhetoric never will put a shilling into the pockets of the farmer; he has reaped nothing but disappointment from reading debates and attending meetings. The landowner who attends to cultivation and the relative concerns of his tenantry and his estate, is a far greater friend to the farmer than those who delude them with speeches and fair promises, convert them into gulls and dupes to ride on their shoulders into Parliament, and then leave them in the lurch—still professing to be his friend. But it must certainly be no easy matter repeatedly to humbug men and at the same time convince them you are their friend. The fortunes realized by individuals in any branch have all been derived from improved practice; they found easier and cheaper way of producing the same or greater results. Agriculture only wants the same attention and means used in order to advance as rapidly as any other art.

In last Magazine, Mr. Smythies attributes the superiority of the Scotch system of husbandry, to the education obtained at the parish schools, and wonders the English landowners can allow their farmers to be lagging so far behind, and adds, if the English farmers had the same means of showing their ingenuity, they would be stimulated into active exertion, and recover their station in the march of improvement. I had the chance of attending schools in both countries, and never could perceive any difference in the knowledge imparted, or in the method of communicating it; it cannot teach a ploughman or a mechanic. No doubt a liberal education is highly useful in any profession, and parish schools are a most glorious institution in any state. But I am of opinion the English farmers, taken in a body, are fully as well educated as in Scotland, though it may have cost more money, but which has no relation to the future application. I would ask Mr. Smythies, why the farmers allow themselves to be so far behind? and what means are wanting to show the ingenuity which the Scotch farmer possesses? An extensive practice in both countries enables me to assert that England enjoys many superior advantages—better land, finer climate, higher prices for produce of every kind, and more money, being much the richer country. What, then, is wanting? willingness and banishment of prejudice. I am inclined to believe the Scotch farmer has some easier way of getting over prejudice, for I never heard such an absurdity uttered as that a threshing machine diminished labour, and at the same time employed too many hands, and caused expense. In England the farmers will not adopt a better system when shown them. I have been witness to many attempts made by landowners in England, to introduce the convertible system of agriculture. If the person he employs ploughs a turf of weeds in order to improve it, his employer's table is covered next morning with anonymous letters, warning him of the utter ruin of his farm, if he ploughs turf, for it is not the custom of the country; if he introduces swing-ploughs and drilling, broadcast sowing and wheel-ploughs suit far better; if he uses single horse carts, waggons do far better; if he raises better crops, he farms at great expense; if he pays more rent, it is not the custom of the country—and, in short, everything is wrong, and in nine cases out of ten, a few years puts an end to the proceedings by

means of prejudice and jealousy. And in England we find the glaring contradiction of seeing the convertible system praised in print, and scouted in the field; the farmers and people one and all joining with hand and heart in hunting it down—the labourers themselves thinking it very expensive farming, though constituting their livelihood. The result of every committee of enquiry was a recommendation of that system which the farmers scoff at and condemn; it was an enquiry into apathy and prejudice. The argument of one-pound-notes favouring Scottish agriculture, is exactly similar: but prices are lower in Scotland, and England possessed one-pound-notes till 1819; and why did not agriculture advance till that time as rapidly as it did in Scotland? for with the exception of tile draining, little or no alteration has taken place in the Scotch practice since that period. Why does not the English landowner and farmer also drain their wet lands? why does he not use the same means of increasing produce, and of diminishing the cost of production, which have been long known and shown to him? what hinders him from adopting a cheaper and more useful plan of farm buildings? he has stone, bricks, timber, and lime, and masons, and carpenters, for hire. What stops him from granting leases, and introducing more green crops, and better implements? nothing but want of will, and prejudice, to overturn which a person may as well try to overturn one of the Egyptian pyramids. And I will venture to assert that if a proprietor were to build a range of threshing offices, the farmer would object because his servants would not like that way! If the manufacturer had been so minded, he never would have introduced steam power; but if mechanical ingenuity were to show him a process one-third cheaper than steam, he would not be slow in adopting it. In our present knowledge of farming, the land must be wrought and cleansed, that little may grow except what is sown, and every means used to raise food for stock—for the more stock that can be kept, the more manure is raised—the more manure a farmer can command, the better crops he raises, and the more produce he carries to the market, the more money he carries home in his pocket. An expense, however, is unavoidable, more or less, to raise the first crop, in order to raise others: at this expense the cultivators of the soil invariably stumble. It is not to be denied that the Scotch landowners have given a powerful stimulus to agriculture, and for a very good reason, for their own interest? but have not Earls Leicester and Spencer and others done the same in England? and what stops any proprietor from doing the same? it may not have been so extensively copied, but that does not attach to them. It most certainly rests with the proprietors to show improvements, they have the means and the power, and before these powerful engines, prejudice and custom must snap and vanish. But most unfortunately they are as prejudiced as any old farmer in England, and reject innovations as steadily, even for their own interest. Whether this may be owing to the want of parish schools, as Mr. Smythies seems inclined to think, I do not pretend to be able to determine; it may probably arise from the want of thinking, on account of which, we are told, the world is greatly lost.

In the last number of this Magazine, Mr. Gayford thinks J. D. has misunderstood his meaning about sending a specimen of any soil to a chemist in order to ascertain its fertility. On examining the

passage in Mr. G.'s speech, it is impossible to understand it otherwise. Either it was done to satisfy the curiosity of the amateur, or with the view of deriving some practical advantage from the opinion of the chemist. In this latter sense it is evident Mr. G. understands it; for he says expressly, "if our landowners would get our soils analyzed, the farmer would be able to pay them better rents." Some practical benefit, then, must be understood to follow: and if the farmer sends a specimen of one field and derives advantage from the analysis, he would immediately send a specimen of another, and very soon a whole country would be analyzed. A most fallacious idea, and of a piece with the many ludicrous opinions always advanced on that subject. It is amusing to see with what adroitness the saddle is shifted from one back to another and never fixed on the right one; it is put on exemption from tithes and rates, on one pound notes, on parish schools and want of means; an analysis of the soil to know the gases it contains, but never where it should be put on the landowners and farmers themselves. They hold meetings and make speeches on a better system of cultivation and on diminution of the cost of labour; and at the same time they reject any alteration whatever; when other branches of business have all been benefited by improvements, what hinders farmers from being benefited also? nothing but their prejudices. In England and in Scotland a farmer hires a quantity of land to be cultivated by his capital; if in the one country the farmer adopts a more profitable mode of cultivation, and reaps more advantage, whom can the other blame but himself for not adopting it also? An estate or a farm is exactly the same as a manufactory, it is the laboratory of the capitalist; and if the one person by adopting improvements outstrip the other, whom can the latter blame but himself, when he will not use the same means? He wants the resolution and firmness of purpose to enable him to despise the fashion of knowledge, and like Roger Bacon, scorn to follow it.

RUSTICUS.

March 24, 1838.

AGRICULTURAL CHEMISTRY.—Sir H. Davy, in a lecture on this subject, remarks that "Agriculture, to which we owe our means of subsistence, is an art intimately connected with chemical science; for although the common soil of the earth will produce vegetable food, yet it can only be made to produce it in the greatest quantity, and of the best quality, by methods of cultivation dependent upon scientific principles. 'The knowledge of the composition of soils, of the food of vegetables, of the modes in which their products must be treated, so as to become fit for the nourishment of animals, is essential to the cultivator of land; and his exertions are profitable and useful to society, in proportion as he is more of a chemical professor. Since, indeed, the truth has been understood, and since the importance of agriculture has been generally felt, the character of the agriculturist has become more dignified, and more refined;—no longer a mere machine of labour, he has learned to think and to reason. He is aware of his usefulness to his fellow men, and he is become at once, the friend of nature, and the friend of society.' Agricultural Chemistry has not yet received a regular and systematic form. But if land be unproductive and a system of ameliorating it is to be attempted, the sure method of obtaining the object is,

by determining the cause of its sterility, which must necessarily depend upon some defect in the constitution of the soil, which may be easily discovered by chemical analysis. Are any of the salts of iron present? they may be decomposed by lime. Is there an excess of siliceous sand? the system of improvement must depend on the application of clay and calcareous matter. Is there a defect of calcareous matter? the remedy is obvious. Is an excess of vegetable matter indicated? it may be removed by liming, paring, and burning. Is there a deficiency of vegetable matter? it is to be supplied by manure. In the selection of the remedy after the discovery of the evil, chemical knowledge is of the highest importance. Limestone varies in its composition, and by its indiscriminate application we may aggravate the sterility we seek to obviate. Peat earth is an excellent manure, but it may contain such an excess of iron as to be absolutely poisonous to plants. How are such difficulties to be met but by the resources of chemistry? That much vague speculation may be found in the works of those who have lightly taken up agricultural chemistry, it is impossible to deny. It is not uncommon to find a number of changes rung upon a string of technical terms, such as oxygen, hydrogen, carbon, and azote, as if the science depended upon words, rather than upon things. But this is in fact an argument for the necessity of the establishment of just principles of chemistry on the subject.—If a person journeying in the night wishes to avoid being led astray by the ignis fatuus, the most secure method is to carry a lamp in his own hand."

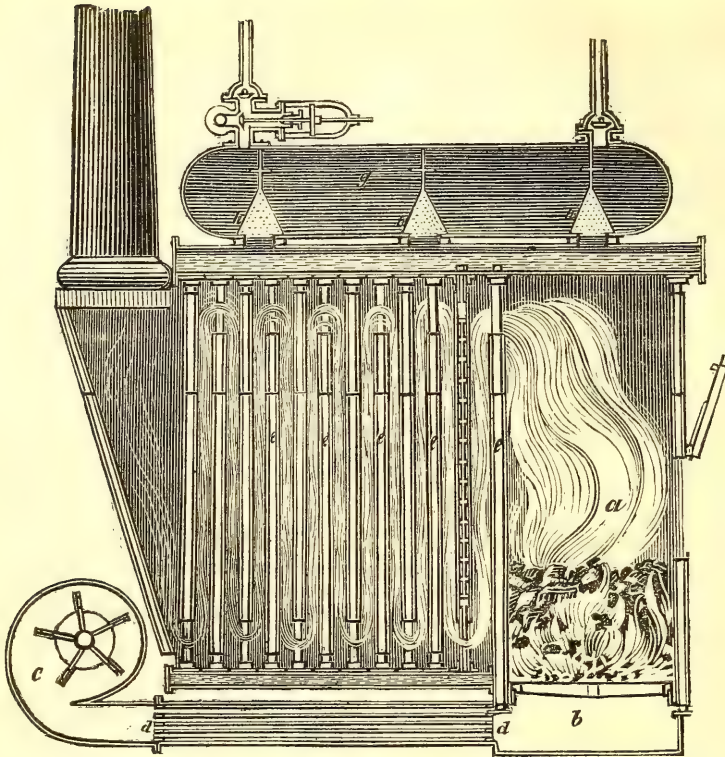
STEAM CONVEYANCE ON COMMON ROADS.—SIR JAMES ANDERSON'S STEAM BOILER AND CARRIAGE.

Although several unsuccessful attempts have been made to establish steam conveyance on common roads, it is well known to *scientific* men that their partial failure was attributable to a deficiency of funds to combat the obstacles and annoyances which presented themselves, rather than to any material defects in the principles upon which the machinery was constructed; on the other hand, those persons who are unacquainted with mechanical science and the nature and properties of steam, were led to conclude from the failure of the early efforts alluded to, that the project was an impracticable one. But who that has read the history of the steam engine, or remembers the progress of the invention of gas-lighting does not know that these splendid discoveries, from which we have derived such vast benefits, were considered by the public at large as visionary and absurd. Not ten years ago, such was the clumsy and imperfect construction of locomotive engines upon railways, that the highest speed they attained was scarcely more than six miles per hour, and this too at a period when several of those individuals who paid early attention to the subject, (amongst whom was the public spirited and indefatigable Sir James Anderson) were actually propelling these heavy vehicles with double the railways' speed along the *common gravelled* turnpike roads! It was these occasional

exhibitions which demonstrated to railway mechanics, that by copying the improved arrangements of the steam carriages for common roads (especially with respect to the efficient mode of generating very high steam pressure in compact boilers) a vast increase of velocity might be obtained on railroads; and hence has resulted that rapidity of motion which has astonished the public, but which was confidently anticipated by those who had given attention to the subject of steam locomotion. The cause of this increased speed obviously arises from the difference in the asperities of the surfaces travelled over; the roughness of the common road presenting at the least ten times more resistance to the rolling of the wheels than does the comparatively smooth surface of iron rails. And the result of this application of iron rails to roads, is, that a locomotive engine of a given power, will propel or draw upon it ten times the load that it would upon a gravelled road. A more practical illustration of this fact may be given by stating that an ordinary sized engine of sixteen horse power will propel upon a railway 100 tons with the same facility as the same engine would propel ten tons upon a common road.

It is now of the utmost importance to bear in mind that this superior speed in the railway has only been obtained by the expenditure of about *fifty thousand pounds per mile* in its construction. This enormous outlay is rather below than above the average cost of several of those extensive lines of road which have been denominated the "grand trunks" of the kingdom; and in several of these it is questionable whether the "returns" will ever amount to the common interest of the capital sunk in their formation. And as it clearly follows that the railway system is perfectly inapplicable to the intersecting and parallel *branches* of the "main trunks," it becomes a consideration of moment to adopt on these the best mode of conveyance or transport which is practicable; and that mode is unquestionably obtained by the application of steam power. Steam power (amongst many other reasons that might be adduced in favour of it) will cost only about one-fourth part of the expence of horse power; consequently the traffic will be less costly to the public; besides which the roads will be much improved by the broad cylindrically-turned wheels of the steam carriages. It may be somewhat too early to speculate upon such a plan, but we are very much inclined to think that where the width of the road would admit, and other circumstances were favourable, the laying down lines of solid stone for the steam carriages to run upon as has been done in the Commercial-road and at Limehouse, would not only prove more economical as regards the wear and tear of the roads, but would also accelerate the speed and enable the engine to propel a much heavier weight, by avoiding that resistance which the softer materials of a common road must offer.

Our limited space will not permit us to extend our remarks in this part of the subject, we shall therefore proceed to the fulfilment of our promise, of giving a description of Sir James Anderson's new patent boiler. That part of a locomotive engine, being, as it were, the heart or seat of life of the machine.



The above engraving affords a side view of the boiler, partly in section, for the better illustration of its construction. At *a* is the fire chamber, and at *b* the ash pit. A blowing machine is represented at *c* by which the air is forced through an assemblage of pipes *dd* (contained in a condensing cylinder) into the ash pit, whence it ascends between the fire bars and excites the combustion of the fuel; the current of heated gases thence ascend, and passing over the first of a series of broad flat water chambers (the edges of which *ee* are only seen in this view, it descends between the first and second, then turning under the second, it ascends between the second and third, and so upwards and downwards throughout the series as indicated by the current of flame until it reaches the chimney *f*. The sides and top cases of the fire chamber, as well as the sides and top cases of the boiler are also water chambers, in order to generate as much steam as possible within the space, and to prevent any undue radiation of caloric, so as to adapt the apparatus in an especial manner to steam boats as well as to steam carriages. One of the water chambers is shown in section for the better comprehension of their construction. They are formed of two flat plates each containing about fifteen superficial feet placed about two inches asunder, and held in this position by the interposition of peculiarly formed frames of solid iron, through which and the external plates they are strongly rivetted. The plates are thus united at about every three inches distance over the whole surface, so as to render it impossible by any force of steam that can be generated to tear them asunder. The water is supplied to the boiler by the ordinary

means, which fills the lower horizontal tube and rises thence uniformly through short vertical tubes into the water chambers *ee* which are always kept full to the top and even partly filling the horizontal tube above, whence the steam enters the reservoir through the perforated caps which impede such aqueous particles as might be borne upwards along with the steam, and returns them into the boiler, while the purified yet dense vapour passes freely through into the reservoir for the supply of the engine.

A boiler of this kind was, we understand, completed about fifteen months back, and has continued to work every day since most successfully, without producing a leak or the slightest derangement, and this notwithstanding the steam has frequently been raised to upwards of 500lbs. pressure upon each square inch of surface! Now the boiler contains 360 feet of working surface, which multiplied by 144 gives 51,800 inches, and this multiplied by 500lbs. gives the enormous pressure of 25,920,000lbs. upon the whole boiler!! A compact machine like this, which is capable of generating, sustaining, and applying so enormous a force, affords, we think, a pretty good test of the excellence of the workmanship as well as of the principle of its construction: It is very satisfactory to have a boiler capable of resisting such a pressure, but one-tenth of it is fully adequate to all the requisites of actual practice. Viewing it in *this* light we proceed to consider its horsepower according to the extent of its heating surface; the usual datum for which is eight feet of fire surface and flue together, for each horse power; and as the surface of the boiler is 360 feet, it is calculated to afford forty-eight horses power. Now

one-half of this power, or even one-third, sixteen horses, according to our previous estimates with respect to the railway is competent to do all the work that it is designed to do by the inventor.

Having thus, without working with steam of great intensity, abundance of power capable of overcoming all the obstructions of the common road, the inventor has since applied it to a locomotive carriage.

It has been calculated that in fixed machines the steam-engine has displaced the employment of three hundred thousand horses, which is equivalent to the manual force of two millions of labourers. And when it is considered that steam-engines require no relaxation from their labour during the twenty-four hours of the day, and that horses must rest sixteen hours out of the twenty-four, it becomes evident that the steam-engines afford a power equal to nine hundred thousand horses, which is equivalent to the muscular force of about six millions of men; an amount far exceeding the manual labour of the whole of Great Britain! These calculations, it should be noticed, have reference only to *fixed* engines; but how great an addition shall we shortly have to make for the *locomotive* engines on rail-roads, and the vast accession of steam-power on canals, rivers, and the great ocean itself!

Amongst all these noble enterprizes for increasing our national prosperity and individual comfort, we turn with peculiar satisfaction to the project of Sir James Anderson for the establishment of steam-waggons and carriages on common roads; because it is calculated not only to accelerate the transmission of goods, and reduce the cost of transport, but what is of vast consequence in a national point of view, to supersede the employment of about 100,000 horses, which consume the produce of as much land as would yield support to 600,000 of our fellow-creatures. We are quite aware of the opinions entertained by many of our Agricultural readers on the supposed effect of railways upon the demand for horses, and prover to support them. It is by no means unnatural that at the first blush, and without mature reflection or the benefit of experience, we should exclaim against what is perfectly manifest, that if you render the employment of one hundred horses upon any line of road unnecessary, the consequence must be that the breeders must rear one hundred horses less, and that the oats, beans, hay, and straw heretofore necessary for the support of these animals will be no longer required. Experience, however, and the opinions of men best informed upon the subject, clearly prove that such is not the fact. It has been ascertained, with a tolerable degree of accuracy, that since the establishment of the Liverpool and Manchester Railway, as many additional horses are employed in the conveyance of passengers and goods from places on both sides of the line to the railway, as were before used upon the road from Liverpool to Manchester. But independent of the vast increase of permanent manual labour created by upholding the railroad, its locomotive engines, &c., we must not lose sight of the additional employment occasioned by the attendance upon, and provision for thousands and tens of thousands of persons who, in consequence of the decreased expense, now travel between those places upon business or pleasure, who

did not travel before. But it will be retorted upon us, the establishment of steam-carriages upon common roads will drive off the cross roads the horses which have been removed from the direct roads, in consequence of the railways, and will render them absolutely unnecessary. This recalls to our recollection a work in the *Harleian Miscellany*, which we adverted to upon a former occasion, but will not be out of place here, wherein the opposition to the increase of stage-coaches in the year 1673, is alluded to, and it is stated that the country would be wholly ruined unless the multitude of stage-coaches and conveyances travelling on the roads were, all or most of them, suppressed, especially those within forty or fifty miles of London.

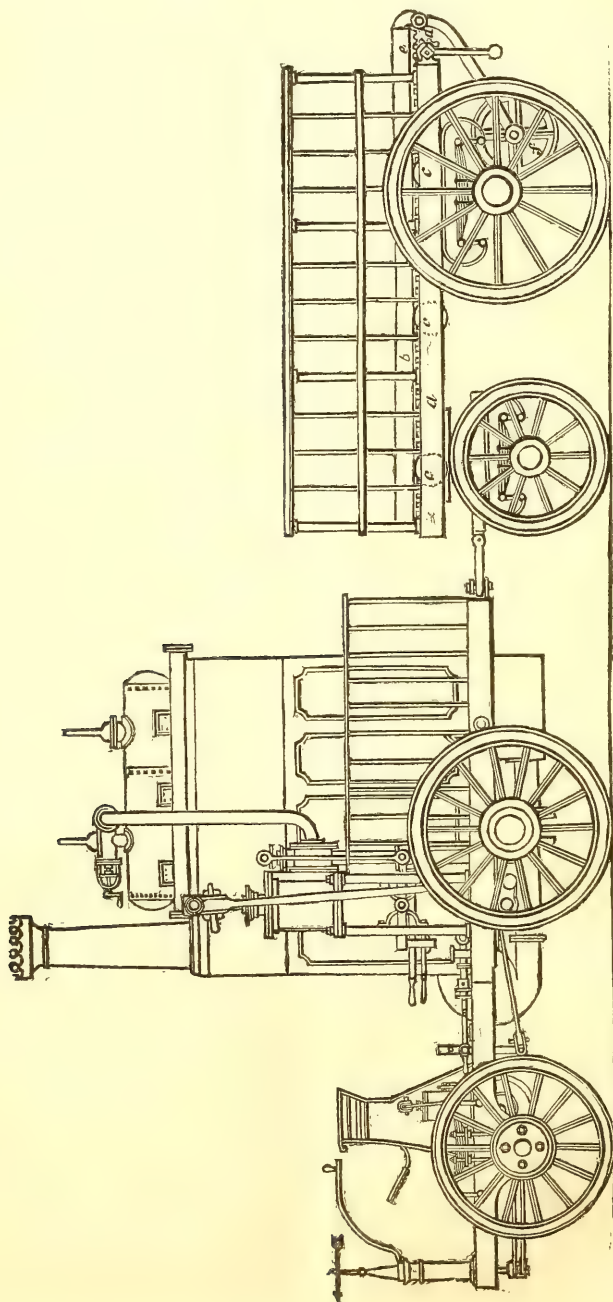
"The inns on the road," says the work alluded to, "will all be ruined if this be not done, inasmuch as when persons travel so quickly to their journey's end, they will need no refreshment on the road. The breed of good horses will be destroyed, for none who are able to travel conveniently, from place to place, will keep saddle-horses; and again, that as fewer clothes are worn out—less property wasted in travelling by the new method than by the old one, trade will be dreadfully injured, and 100,000 persons totally deprived of bread. Numerous petitions, too, from various parts of the country were presented to Parliament, urging this same necessity, but unfortunately without effect." &c. &c. &c.

At a much more recent period we have seen the common carriers upon turnpike-roads petitioning Parliament, to refuse the application of companies for leave to cut canals. It may be laid down as an axiom, that facility and cheapness of communication not only promote travelling and traffic, but increase employment of every kind. So will it be in this case, if so many horses be not wanted on roads upon which steam conveyance is adopted, by far the greater part of them will be requisite to perform the increased work in those places where the steam-carriages cannot go. But suppose the number of horses now kept should be in some measure reduced, and the land now used in producing food for beasts be devoted to increasing the supply of food for man. Is it not clear—with what justice, with what policy, with what propriety we will not now stop to enquire—that the opinion of the consumers of grain in this country is setting strongly in favour of a free trade in corn? How can the British agriculturist most successfully resist such a demand, but by using every means in his power to provide a supply of grain increasing proportionably with the rapid growth of our population, and at a price which will afford a living profit to himself, and yet not be so dear as to press hard upon, or excite the irritability of the mere consuming part of the nation. This we are ready to admit may, to a certain extent be effected by an improved cultivation of the land now under tillage, and by the further enclosure of waste land, but it must not be lost sight of, that as the general condition of the inhabitants of the United Kingdom improves, and which we apprehend no one will deny that it is now doing, the consumption of each individual respectively will increase, and a demand be created which will require very considerably enlarged resources to supply. Our sincere and firm belief is, that the agricultural interest will be amongst the foremost to benefit by the introduction of steam-conveyance upon common roads.

There are two different methods of applying locomotive power for moving carriages on common

roads, whether employed for conveying passengers or goods. In the first, the locomotive engine is contained in the same carriage as that which contains the passengers or goods; in the second, the locomotive engine is contained in a distinct vehicle, and it may be used either to propel before it or drag after it, another carriage containing the load. Each of these plans has advantages peculiar to itself, which our space will not permit us

to discuss; we shall therefore briefly state, that the *preponderance* is greatly in favour of the dragging method, and that it has in consequence obtained a decided preference with the experienced projector, whose labours we are noticing. But whether the locomotive engine be propelling or dragging, the machine is the same, which we shall proceed to describe, with reference to the engraved figure annexed.



The frame of this locomotive engine is entirely metallic, and its parts are combined so as to obtain the utmost elastic resistance. It is mounted upon four wheels, through the intermediate agency of a peculiar description of springs, so constructed as to prevent the concussions arising from an ordinary road having any injurious effect on the machinery. The boiler is of the same kind as previously described, as will be recognized by the resemblance of the steam chamber, the valves, and other external parts. The space it occupies in the vehicle is about six feet in length, and three feet four inches in width; thus affording plenty of room for the steam, cylinders, and their working appendages, which are alike on each side, similar to that represented in the figure. A blowing machine is introduced to force the air through the fuel, and the current of heated matter is further accelerated by the exhaustion produced on the chimney by the discharge therein of a portion of the waste steam; a part of this steam being condensed, and returned to the boiler by the force pumps. This condensation is effected by discharging the steam into two large horizontal cylinders fixed underneath the carriage, each of them containing an assemblage of small tubes, through which the cold air is forced to supply the furnace; the steam in the cylinders is thus converted into water, and the heat contained in the vapour is transferred to the air before it enters the furnace. The mode adopted for reversing the motion possesses great simplicity, and there are several other combinations in this engine which we should like to explain, but we must pass over them, in order to give some description of the waggon appended to it.

To avoid the damage which goods often sustain by being transferred from one carriage to another, in order to deliver them at their required destination, and the inconvenience and loss of time which often results therefrom, the waggon has been so constructed that any part of its contents may be readily got at and delivered, without disturbing the remainder, the intention being to deliver each package at once, where addressed. The bottom of the waggon consists of a moveable platform, supported upon rollers in sleepers contained in the bottom of the vehicle, which permits it to be run in or out, and to be loaded or unloaded at any part of the platform. At *a* is the bed of the waggon; *b* the moveable platform; *c* the roller supporting the same; *d* a toothed rack attached to the under side of the platform; and *e* a pinion connected to the bar and working in the rack; *f* is a roller at the end of a short strut for supporting the platform when the latter is drawn out; this part of the machine is represented as shut up, to save the space its extension would have required.

The working of locomotive engines for dragging the waggons will unquestionably be attended with vastly greater facilities than that of the rapid coach system; and the wear and tear of the machinery will bear no comparison in extent to the latter mode. A great weight may be drawn at a steady motion of about seven miles per hour, which is more than double the rate of the ordinary "fly waggons," and we are informed at an expence in mechanical power far less than that of horses.

The cost is estimated at twopence per ton per mile, which is equivalent to sixteen shillings and eightpence per ton for 100 miles distance, the usual charge for which is seven pounds! Of the correctness of the latter part of the statement our commercial readers are aware, and it should be borne in mind, that not one farthing is sunk in the formation of roads, whereas in railways it averages full fifty thousand pounds per mile.

The public seem for some time to have entertained an opinion that it was folly to attempt the running of steam coaches upon common roads; this may in some measure be ascribed to the repeated disappointments experienced upon the trial of several steam-carriages which have been from time to time announced, but not one of which has as yet succeeded. In almost all, if not in all the previous instances, the public has been called upon to assist the projector of the steam-carriage in carrying into effect his improvements, the expense being too heavy for him to bear alone. Here however the case is just the reverse, Sir James Anderson has expended his own time and his own money; he has completed his improvements, he has tried his carriage and found it to answer his most sanguine expectations, he produces it in its perfect state, and he calls upon the public to adopt it so soon as he shall have proved by open trial, by actual use, that it possesses all the capabilities and advantages which he represents. Amongst other prejudices, one of the most unfounded appears to have been, that carriages thus propelled would be more injurious to the roads than carriages drawn by horses. The evidence given before the House has incontestably proved the reverse. It has been fully demonstrated that the wear and tear on roads is caused almost entirely by the feet of the horses, and if we reflect for a moment, this truth must be clear, and the advantage, as regards steam-carriages become manifest; for, in order to obtain a sufficient degree of adhesion, so as to prevent any possibility of slipping, the wheels being broad, act as rollers on the road, pressing down every inequality they meet; and there can be no doubt that if roads formed like the present were run on only by steam-carriages, they would become in time almost as solid and even as a flagged way.

Mr. Farey, in his evidence says:—

"The danger of being run away with and overturned is greatly diminished in a steam-coach. It is very difficult to control four such horses as can draw a heavy stage-coach ten miles an hour, in case they are frightened or choose to run away; and for such quick travelling they must be kept in that state of courage that they are always inclined to run away, particularly down hill, and at sharp turns in the road. Steam power has very little corresponding danger, being perfectly controllable and capable of having the power reversed to retard in going down hill. It must be *carelessness* that would occasion the overturning of a steam-coach. The chance of breaking down has been hitherto considerable, but it will not be more than in stage coaches when the work is truly proportioned and properly executed. The risk of explosion of the boiler is the only *new* cause of danger, and that I consider not equivalent to the danger from horses."

This, the *only* objection, our readers are aware is now *entirely removed* by Sir James Anderson's boilers.

With this evidence given before the House, and in

which almost all the other witnesses agree, it is a matter of surprise that so much prejudice has continued to exist against a mode of conveyance fraught with so many advantages to the public. We shall feel gratified if we have assisted to dispel an error attended with so much injury to the country at large, for in proportion to the prejudice that exists against it being undertaken are the difficulties to be overcome in establishing it.

We are convinced that many a great and important good has been lost to this country from a bigotted adherence to "*what is*." Truths shine upon us, and yet, in very wilfulness, we shut our eyes against the light. In the invention we now allude to, however, we are happy to state that the country *will* participate, preparations being now making to establish carriages and waggons for the conveyance of passengers and goods over the entire of England, and we feel justly proud in being the first to announce the successful issue of so important an object.—Mark Lane Express.

ON ENTERITIS.

BY MR. W. A. CARTWRIGHT, WHITCHURCH.

(From the *Veterinarian*.)

It has been my intention for some time past to make a few remarks on enteritis, and bowel complaints generally. The discussion at the Veterinary Medical Association has been a further incentive, and I have therefore sent you the following observations:—

I consider that there are no complaints to which the horse is more liable than those affecting the bowels: their causes so various; the difficulty in positively deciding on their nature, requiring the greatest tact, talent, and discrimination; and yet the greatest carelessness and indifference there is in farmers and the public tampering with such diseases, and losing for the veterinarian the first and most important step in their cure, viz. time at the outset for attacking the disease. Oh! how often is it the case, that we are indignant to see valuable horses sacrificed by their owner and ignorant villains quacking them; giving them sometimes the most trifling things imaginable, at other times the most disgusting and destructive. I have had a great deal of experience in such cases; and I speak with the firmest conviction when I assert, that farmers and others never err more than they do here in taking such cases into their own hands, or allowing them to be treated by some of the most ignorant of the community. That some are soon cured, and *apparently* by trifling means, we all can admit; but that a great many others require the greatest care, skill, and attention to get them well, no one can deny. The mischief I consider is here—every one has a "receipt," and most persons reason, when a horse lies down, "oh! 'tis the belly-ache, I will soon cure him," being wofully ignorant at the same time of the cause of that pain; little dreading or knowing that there may even be violent inflammation from some of the many causes well known to veterinary surgeons, and for which their remedies must be rank poison.

Mr. Hutchinson says, in his essay, that in cases of enteritis "there is invariably obstinate constipation of the bowels." Now, as far as my experience

goes, I cannot at all agree with him; for I find that out of about thirty cases that I have notes of (and I have treated a great many more) there are not above three or four patients that were at all constipated, and those but in a small degree, and the constipation, I fancy, but little concerned in producing the disease. In some of the cases, I acknowledge, the large intestines have been tolerably full of food; but which, on opening them, was found to be of a pulpy consistence, and probably might have been a little softened by aperient medicine. Upon the whole, therefore, I am inclined to believe that, as Mr. Simonds observed, "constipation is a mere bugbear;" but at the same time it would be absurd to deny, that cases do sometimes occur solely from that cause. I recollect a colt dying the day it was foaled, when there was great constipation and inflammation, and which were apparently, from the symptoms, the cause of death.

Another symptom that Mr. H. mentioned was that of tympanitis; but this, like the other, is often entirely absent in enteritis until a short time, in many cases, prior to death. I have seen several instances in which, to all appearance, inflammation had destroyed the horse from violent distention of all the bowels: in one case this resulted from eating young grass, and another from feeding on young clover. The quantity of green food found in them was not great, but the distention was excessive.

It may be said that, in these cases, inflammation was a primary affection, caused by the young grass; but, for my own part, I believe that, whatever stimulating quality the food may have had on the bowels, the gas so evolved had a great share in producing death by distention.

In one case I introduced the trochar after death, in order to try its effect, and through which a great deal of gas escaped; and I find in my note-book, at the end of one of the above cases, in the year 1829, the following observations:—"From this case, and several others that I have seen, I conceive it would not be an improper procedure to puncture the large intestines with a trochar, as it frequently occurs that the air cannot be expelled by the usual means, and is kept there as a continual irritant to the bowels, and impeding respiration by the distention:" so that it will be seen I had then thoughts on the subject of intestinal puncturation, and which Professor Stewart, of Glasgow, has brought to the test in the very interesting and successful case which he has recorded in *The Veterinarian* in 1836.

Sometimes we may have great distention of the small intestines, and yet not visible to the eye externally. I have seen a case where the small intestines were distended with water and flatus almost to bursting, and in a most violent state of inflammation, caused by drinking cold water, and this producing strangulation just before their termination in the large intestines.

Mr. H. says, that "the mode to distinguish between enteritis and other intestinal diseases is simple." I grant you in many instances it is; but in others there is great difficulty in deciding positively where spasm ends and inflammation begins, and particularly so in cases of strangulation, irritation, constipation, &c. What said Mr. Spooner on the subject? "It is much to be deplored, that we have not yet attained this knowledge of our art." I fear but few are able positively to say where there is invagination or strangulation—it can be but supposition at most. I have seen seven or eight cases of intussusception and strangulation, and never yet could be positive on the matter; indeed, in one case, and which I sent to you (*vide Veterinarian*,

vol. viii., p. 380). there was no pain evinced to indicate it in the least.

The President, Mr. Sewell, observed, "that the presence of enteritis and amount of inflammatory action may often be detected by the degree of heat felt as the hand passes over the external part of the abdomen." It may be so, but I doubt it.

There is one remark of Mr. H.'s that I am rather surprised at, and which is, "that in colic there is seldom acceleration of the pulse." Now, every one must know this to be contrary to all experience; and I shall therefore pass it over. I have now and then been puzzled with the state of the pulse in connexion with other symptoms; but a knowledge of its variety is of the greatest consequence, and will seldom, if ever, mislead.

Another error Mr. H. has fallen into, and it is, that in colic the horse seldom lies on his back, and that in enteritis he invariably does. Now, on this subject I again perfectly agree with Mr. Spooner, that the contrary is the fact. I have seen horses often roll on their backs in enteritis, but not nearly so frequently as in colic; and this disposition has continued in the former disease, more or less, until the horse had no longer sufficient strength to put himself in this position. I consider the pain far more severe in colic than in enteritis: in the former the spasms are more violent, and in the latter, although very severe, the patients seem more to bear up against it.

It was remarked by Mr. Spooner and others, that the horse often sits upon his haunches when there is rupture of the diaphragm and protrusion of the intestines into the chest; and the same symptom, Mr. H. says, takes place when there is strangulation, or rupture, or displacement of intestines. I well recollect several instances where this symptom was present. In one, the horse had been very hard run from Liverpool, and about the country, in consequence of the owner (a native here) having fallen from the pier head and being killed (you can sympathize here, Mr. Y.!) and the horse was under my care for nearly a day before he died; but I am sure this symptom was not present, although there was a rupture fifteen or sixteen inches long in the diaphragm, and nothing else the matter with him.

Another case of rupture of the diaphragm I sent to *The Veterinarian*, vol. vi., p. 106, and where this symptom was also absent. In one case of inflammation of the bowels the mare was heavy with foal, and ill most violently for twenty hours; ten quarts of blood were taken from her; her sides blistered, and a good deal of medicine given to her. She carried her foal, and did well; but before she got better she nearly lost the use of her hind quarters, especially on one side, and would sit on her haunches. She then voided a great quantity of water; the weakness then seemed to disappear, and she soon got better.

In one case of inflammation of the small intestines the horse sat on his haunches for the first six hours, with very little intermission; and when he died about one yard and a half of gut was found to be inflamed, and lay, in a great measure, against the diaphragm.

Now, in these cases it will be seen, that there was rupture of the diaphragm, and no sitting on the haunches; and also, that there was sitting on the haunches and no ruptured diaphragm.

One can well imagine that, in the one case, sitting on the haunches may have given relief in taking off the pressure that existed between the inflamed bowel and inflamed diaphragm; for it is a curious fact, that often, when the bowel is inflamed, the

peritoneal covering of the diaphragm contiguous to it is more or less so. I believe, also, that when the horse lies on his back he obtains relief thereby, the expansion of the abdomen being more freely allowed, and the pressure that may occasionally exist being taken off. I recollect a horse rolling on his back, and lying in that position against the wall for upwards of an hour; he then tumbled over on his side, got up, and was well.

On the point, whether there is more pain in the large intestines than in the smaller ones, it is difficult to give an opinion; but I think there is little difference.

It was observed by the President, that enteritis was sometimes caused by over-exertion; and I think there can be no doubt about it. How often are there cases brought to us out of the field, from the thrashing-machine, and other laborious work, that shew inflammation or great irritation, and in all probability from such a cause. I saw a case of an in-foal mare, that died of enteritis, and I thought then, and think so still, in consequence of great labour in drawing manure for potatoes. I also can call to mind two fatal cases of in-calf cows, that had the same complaint from having travelled a long journey. Also several cases where horses had been hard ridden, and the attack coming on as soon as they were brought into the stable. I think it is easily accounted for in these cases, even upon the common principle of pressure; or if I may so say, of friction, by the continual swaying of the belly and its contents, and the sympathy, as Mr. Spooner observed, existing between the voluntary and involuntary muscles.

Cold was also mentioned as a cause. Who can doubt it? either externally or internally applied. Most of us know from our own experience, after exposure of ourselves generally to cold, or getting the feet wet, how soon, in many cases, the bowels become affected; and so I have no doubt, in many instances, the horse suffers from the same cause. I had a most obstinate case last year in a horse belonging to a clergyman in this town, that went a distance of fourteen miles to a sale. He was put into a cold shed, and remained there for three or four hours. On starting for home, it was found that the horse had been pawing: he came home with difficulty, and lay down as soon as he got in the stable, and was very ill all night. I bled him several times, and gave opium, and he got well; but he had no opening medicine until a day or two afterwards.

As to the drinking of cold water, I know many instances in which enteritis was produced thereby; I will just allude to a few:—One was that of a young healthy grey mare, the property of a surgeon in this town, that had been under my hands for ophthalmia. I ordered her not to have cold water for some time, having had some aperient medicine a few days before; but the gentleman persisted one morning in her having it, and the consequence was, that in a short time afterwards violent symptoms of spasm came on, and which ended in excessive peritoneal inflammation of the whole of the small intestines. The muscular coat was scarcely at all affected. Other cases I have known produced by turning horses out at night to drink their fill at a pit, let them have been working ever so hard. The consequence has been, that before morning they (the owners) have been disturbed by a noise in the stable; and in some instances the horses have actually broken out of the stable, and been found rolling about in the yard. In several cases strangulation was produced from this cause. From the conjoint effects of exposure to cold and over-exertion, the body, in

many instances, may be so debilitated as to be in a manner predisposed to the disease.

A few years ago, when our cavalry were, during the summer, at Ellesmere, a great number of horses were suddenly taken ill with shivering and restlessness, in consequence of having had cold water given them to drink too soon after coming home from duty. To some a large dose of opium was administered: others were trotted about and got well; but many were obliged to be bled, and attended to for some time afterwards.

There was a very just observation made by my namesake, "that sometimes it has occurred when the horse has been at grass, the eddish having been strong, or the meadow lands coarse and rank." I saw a fine cart-horse, belonging to a farmer near this place, that shewed symptoms of belly-ache, or indigestion, on three successive Fridays, the cause of which I at length traced to his having eaten some rank grass that had grown on a flooded croft, near the house. The grass was discontinued, and he ceased to have the attacks. I recollect another farmer having three of his horses attacked, one after the other, in a similar way; but they got well. Two other cases, from eating young grass and clover, I have mentioned under a previous head.

On vomition, Mr. Daws remarked, "that he had always found, that when any obstruction had taken place, either through hernia, strangulation, or intusussception, efforts to vomit were observed:" if so, it does not at all agree with my observation, as I never saw it, with only one exception, and which was slight and momentary, and which I thought as likely to have arisen from the medicine, in all the cases that I have witnessed, although I have generally been with my patients as much and as long as I could while they were labouring under the disease. In fact I took a sort of interest in bowel complaints, and that in consequence of having had so many under my hand.

There are some cases of a very insidious and deceptive character, the principal and prominent symptoms of enteritis, during life, being in a manner absent. The pain may be, to all outward appearance, slight—nothing more than a little uneasiness—and the respiration scarcely affected, until within a few hours of death, when the symptoms have been as violent as in other cases.

On opening the horse in such cases, very slight vestige of the disease is to be seen, though generally sufficient to show what it was. There are others where the symptoms have been exceedingly violent, and yet, like the last-mentioned, little ravages of the disease were to be seen. In these latter cases must we attribute the slight inflammation discovered to the good effect of bleeding; but that, and the great debility produced by the disease, the contrary effect on the constitution?

In one case I recollect offensiveness of breath and a most offensive discharge from the bowels; and on opening the horse, there was about a yard of the small intestines in a state of mortification. This was the evident source of the smell and the discharge. There was little pain in this case during the seven hours previous to his death that I saw him.

Last summer I had a case of superpurgation, brought on by eating a quantity of oats in the straw; and in two days after this, and while carrying more oats, the horse escaping and drinking a quantity of water at the pit. When I first saw him, (for he had been purging ten days,) he was not uneasy, would eat plenty of grass, but not much hay or corn; the pulse and respiration were natural, and there seemed

but little the matter with him, except the purging, and a peculiar hollow appearance. I gave 3ss opium, &c., night and morning for about four days, and he got much better; but on the next day he was as bad as ever. I continued the opium and other medicine according to circumstances. I bled him, and blistered his abdomen; but the blister took very little effect, and on the twenty-second day from the time of eating the oats he died. On examination, the whole of the mucus membrane of the large intestines was of a blue-black colour, with streaks almost black, and completely disorganized. The smaller ones were in a similar state, with the exception of about a yard or two of the duodenum. It was clearly confined to the mucous membrane. In this case there was little apparent pain; but a seeming uneasiness, and rarely lying down.

I have seen some cases of inflammation of the bowels where death has supervened, and where but little marks of inflammation have been present; but there were thousands upon thousands of small kindle-worms amongst the food, and attached to the membrane, both in the small and large intestines, especially in the latter; in these cases I have found the food in the intestines to be drier than usual. Now, whether the worms were here the cause of the great irritation and dryness of the food, I leave for your consideration.

Some few cases I have had of great irritation and purging in the rectum, produced by the attachment of bots: I have removed them, and the horses were soon well again.

A few years ago a farmer took to a large farm in this neighbourhood, and in consequence of having a great deal of work for his horses to do they became very poor. He was recommended to an ignorant fellow, a blacksmith, of the name of Cliff, to give them a nourishing drink or two; but, instead of that, he gave to four of them something or other that brought on violent purging, and he had them all rolling about the stable at once. I was sent for, and found one dead; another died on the next day; another in the course of three weeks; and the fourth lingered on for three or four months, and died at last, purging more or less during the greater part of the time. The horses thus destroyed were worth 70*l.* or 80*l.* and the rascal of a farrier not worth 2*d.*

Another farmer had three valuable horses destroyed by the same disease, in consequence of a druggist having prescribed some worm medicine. This pretender was obliged to pay very handsomely towards the replacing of them, or an action would have been brought against him.

A gentleman's servant some time ago gave a dose of physic to his master's horse, and it did him much good: he gave him another dose some time afterwards, of double the strength, and it killed him. His reasoning was this: that, as the first dose did him a deal of good, one double the strength would do him double the good.

Treatment.—The treatment of these cases depends entirely on the supposed cause of the disease. If the pain and state of the pulse indicate nothing more than spasm of the bowels, I generally give ʒij spirit. tereb. combined with ʒij tinct. opii, and twenty drops of ol. menth. pip.; and if this does not answer the purpose, I repeat it in half or three-quarters of an hour, and have recourse to a pretty severe bleeding; indeed, in many cases I bled at first, in order to save trouble, and consider it a prudent practice to adopt in the generality of cases.

As to giving purgatives in enteritis, I think it, upon the whole, not a desirable practice, seeing, as I said before, that in most instances we have no

reason to believe that constipation is present; yet, undoubtedly, there are cases where it is essentially necessary to do so; indeed, in many instances I am accustomed to give a *little* so as to produce an *aperient* effect; but this is oftener done to please the owner than I think is beneficial, and which I do not intend to do so often in future.

It may be said, that you are only applying the medicine to a membrane that is not principally diseased, and that it may act as a sort of counter-irritant to the muscular or peritoneal coats; but I should be doubtful of this, as there is great sympathy between the coats. If you get rid of the inflammation, in most cases the bowels will act of themselves, or be induced to act by merely giving a *little aperient* medicine in a day or two after the prominent symptoms have subsided. Do not be in a hurry here! That opium will produce sleep in the horse I have not a shadow of a doubt, as I am sure that I have seen it scores of times whilst attending horses with colic and enteritis. I formerly gave it in half-drachm doses, but within these few last years have given it in drachm doses, made, so as to insure his getting it, into a very soft ball, and in the course of half an hour, or at most an hour, its effects have been produced in a most evident way by his hanging his head and nodding, even until his nose has often touched the ground. This has continued for half an hour to an hour, and at the same time the pulse has been considerably lowered, and the system calmed. Sometimes, of course, I give it in a liquid state. I have given it both before and after bleeding, but with greater effect in the latter case. Wherever opium is given, there cannot be any great objection in administering *aperient* medicine at the same time, and, thereby getting rid, as Mr. Youatt observed, of both enemies (if they exist) at once.

In respect of applying counter-irritation, I have to say, that I object, with others, to the free use of the *spt. tereb.* and ammonia: they only irritate, and destroy the hair, and produce, as the president observed, a permanent blemish. I have seen it repeatedly. I doubt whether the use of mustard is beneficial. It is a tremendous irritant to the skin, and, like the turpentine, produces too great a disturbance in the system: it is not sufficiently local in its action, and, perhaps, does more harm than good. Wherever the application of the cantharides can be made in conjunction with a *little* of the turpentine or mustard in a liquid state, I think it better practice. The ung. lytta is too often rubbed off in their struggles. No external application, in these cases, I think more likely to produce good effect than the firing of the belly with the hot iron. The insertion of rowels or setons I have often found serviceable; for it is too often the case that blistering takes but little effect in the early stage of the disease, and that the setons or rowels are often observed to rise and discharge quite as soon as the blister. But are blisters, setons, or rowels of much use, except they rise in the acute stage? Where the cases are of a more chronic character, they would.

The great, the all-important measure must be, *early* and decisive bleeding, and the administration of 3 doses of opium, aided by warm clothing and bandages, the animal being kept in a tolerably warm airy place. If the first six hours are lost, as is too often the case, it is a serious affair, and uncertain in its result. I have never seen more than two successful cases in which the disease has continued, without any abatement of the symptoms, to the twenty-fourth or thirtieth hour and then recovered. Most that have died have done so within twelve or fourteen hours.

THE COTSWOLD SHEEP.

"If thy farm extends

Near Cotswold Downs—

Regard this sort, and hence thy sire of lambs select."

Dyer's Fleece, Book I.

They are so called, according to Camden, from the cots or sheds in which they were housed either at night, or permanently, in the winter; and the wolds, or open hilly grounds, on which they were pastured in the summer. This mode of protecting the sheep from the inclemency of the weather seems to have been, in some former period, generally practised in the contiguous counties of Gloucestershire, Herefordshire, and Worcestershire. It was not always a very rude kind of protection that was thus afforded: for Camden goes on to say, that these cots were long ranges of buildings, three or four stories high, with low ceilings, and with a slope at one end of each floor, reaching to the next, and by which the sheep were enabled to ascend to the topmost one.

The Cotswold sheep have been held in high estimation from a very early period of history. Drayton, who flourished in the time of Henry VIII., represents in one of his singular, but still beautiful poems, Cotswold as King of the Shepherds, and thus speaks of him,—

"T' whom Sarum's plaine gives place, though famous for its flocks,

Yet hardly doth she tythe our Cotswold's wealthy locks;

Tho' Leinster* him exceed in fineness of her ore,

Yet quite he puts her down for his abundant store."

It has already been stated (page 211) that in 1437 Don Duarte, king of Portugal, and brother-in-law to the king of Castile, from whom he might have obtained the finest of the short Spanish wool, made application to Henry VI. for liberty to export sixty sacks of Cotswold wool, in order that he might manufacture certain cloths of gold at Florence for his own use.

Stowe, in his "Chronicle," under the year 1467, twenty-seven years after the exportation of this wool, has the following passage:—"Shepe transported into Spain.—In this yere King Edward IV. gave a license to pass over certain Cotswold shepe into Spain, by reason whereof it has come to pass at this day, that the staple of the wools of Spain, except at Baydes (Bruges) in Flanders, is so great, that our staple is not comparable to it."

With the exception of Anderson, and Lawrence, and Dickson, the nature of these regal presents is well understood and explained. They were long wools and long-woolled sheep that were sent to Spain, not designed to mingle with and improve the wool, or the breed of the migratory sheep of Spain, but to form a lighter serge-like fabric. The greater part, or the whole of the wool that was exported from Great Britain at that time, and for centuries before, was long wool, and the Cotswold sheep were then, as now, long-woolled. Stowe is in manifest error when he attributes any change in the breed of Spanish sheep to the animals thus exported.

* The Leinster, or Leominster ore, to which the poet here alludes—wool as precious as ore—was at that time finer than the Cotswold, as it is at the present period the finest in England.—*Vide Annals of Agriculture*, vol. xv., p. 455.

In the year 1390 no fewer than 130,000 sacks of wool were exported from the different ports of Great Britain. This, reckoning 364 lbs. to the sack, would amount to 47,320,000 lbs. of wool. Where were the number of short-woolled sheep to be found that would supply this immense quantity of wool, besides that which was required for the home manufacture? The fleece of the short-woolled sheep would scarcely average more than 2½ lbs.; and consequently the number of sheep which then covered our pastures must have been nearly 19,000,000, exclusive of those that were to supply the home manufacture. The whole number of sheep in England and Wales, according to Mr. Luccock's calculation, was but 26,000,000 in 1800. In 1741 it was but only 17,000,000., and in 1698 they were calculated by Gregory King to be only 12,000,000. Nothing more needs to be stated in order to prove that they were long-woolled sheep that yielded this immense quantity of exported wool; and reckoning 7 lbs. to be the average weight of the fleece, 6,760,000 sheep would be requisite; still an immense number, and showing how decidedly the English people were, at that time, growers of sheep. It is requisite only to add that Markham, a writer on agricultural affairs in the time of Queen Elizabeth, says that the Cotswold sheep were, as they continued in every period of their early history, "a long-woolled and large-boned breed.*"

Very few flocks of pure Cotswolds now exist, and these are rapidly diminishing. They are taller and longer than the improved breed, comparatively flat-sided, deficient in the fore quarter, but full in the hind quarter; not fattening so early, but yielding a longer and heavier fleece. There can be no doubt that the Cotswolds have been

* After all these historical notices, it is really unaccountable to find such otherwise excellent writers as Mr. Herbert and others, gravely tell the public that "the first of the old Lincolnshire and Leicestershire breeds reached England about the year 1760; six or seven years after which, Mr. Turner introduced into Herefordshire a cross between the Leicester ewe and the small Ryeland ram; whence the origin of the Cotswold or large Herefordshire breed."—British Farmer's Magazine, Nov. 1830, p. 440.

It is also singular to find Lawrence and Dickson, and the whole herd of compilers, describe the thorough change from short to long-woolled sheep which has taken place within the last forty or fifty years on the Cotswold hills. Mr. Marshall says that he made every inquiry on the subject when he visited this part of the kingdom, and had opportunity of conversing with some of the oldest and most intelligent farmers and shepherds; and he could come no nearer to the probability of the breed having formerly been a short-woolled one, than the circumstance that the inclosures had done in Gloucestershire what they had done in every other district, increased the carcase and lengthened the wool of the sheep.—Marshall's Western Agriculture, p. 8.

The writer of the present treatise begs leave fully to confirm Mr. Marshall's account. He tried in vain to obtain intelligence of this former fine short-woolled breed. Changed only with the change of sheep-farming, the Cotswold sheep are what they have been from time immemorial.

materially improved by an infusion of the Leicesters blood; and in the same way as in the other long-woolled breeds. The degree to which the cross may be carried must depend on the nature of the old stock, and on the situation and character of the farm. In exposed situations, and somewhat scanty pasture, the old blood should decidedly prevail. On a more sheltered soil, and on land that will bear closer stocking, a greater use may be made of the Leicester. Another circumstance that will guide the farmer is the object that he principally has in view. If he expects to derive his chief profit from the wool, he will look to the primitive Cotswolds; if he expects to gain more as a grazier, he will use the Leicester ram more freely. In the latter case he will have a smaller sheep, but one that will yield as much or more weight of carcase than his taller competitor, and more of which may be kept on the same space of ground.

It is curious to observe the different size and appearance of sheep, essentially the same, in different parts of Worcestershire and Gloucester, and often on the same farm after the lapse of a few years. Caprice or fashion produces strange alterations in sheep stock. The prevalent breed may be said to consist of half Cotswold and half Leicester. The farmer, perhaps, finds his sheep to diminish in size more rapidly than he likes; he has not the same weight of wool; he fancies that the constitution of his flock is becoming delicate, and that he has not the number of lambs which he had a right to expect. He buys or he hires a Cotswold ram, and these defects are immediately remedied. He breeds on with the Cotswold, and his sheep are not brought quite so early to the market, and they are becoming too large for the quality of his land, and he goes again to the Leicester ram. It is in this alternate play between the two breeds, that the business and the skill of the sheep-master here consist. The tide of opinion is now prevailing in favour of the smaller breed of sheep, and the Leicesters are much in requisition. The land suiting his purpose, he is wise who will content himself with this smaller breed, so many more of which he can have upon his land, and which he can bring to the market so much sooner.

The two-year old wether of the improved sort, and consisting of half Cotswold and half Leicester, will weigh from 20 to more than 40 lbs. per quarter, and yield 7 or 8 lbs. of wool per fleece.

Dr. Dickson states that in Devonshire they have succeeded in the cross of the New Leicester upon the Cotswold; wethers of eighteen months, averaging 19 lbs. the quarter, and giving 7 lbs. of unwashed wool; and at thirty months weighing 25 lbs. the quarter, with an unusual quantity of inside fat,—the fleece weighing 9 lbs., and being a penny a pound better than that of the Exmoor, Banpton, or South Devon. The writer of the present treatise has not seen any of these sheep, but he can readily subscribe to the opinion of Dr. Dickson, that "in this breed, which is large and heavy in the carcase, and full in the fleece, with a degree of fineness, there is the combination of a good and useful form that greatly suits the general demand."—*Youatt's History of the Sheep.*

* Dickson's Complete System of Improved Live Stock Management, vol. i., p. 365.

THE OXFORD, CLUNCH, OR FEN CLAY.

This formation is composed of a strong bluish clay, with septaria and beds of bituminous shale, some of them of considerable thickness; from which circumstance inexperienced persons have been deceived into the idea that coal may be found there, and have been at considerable expence in searching for it. This clay is of a dark blue colour, but turns brown by exposure to the atmosphere, and becomes strong and adhesive. It forms the foundation of the hills which are capped by the coral rag; and, in some places, it rises into low round-headed knolls, at the foot of those of the coral rag. The extent of this formation is considerable. From near Crewkerne, in Somersetshire, it passes east of Sherbourne, near Shaftsbury, to Mere, where it thins into a narrow strip in its course through Christian-Malford, Cricklade, Lechlade, Bampton, Oxford, Bicester, Fenny-Stratford, Newport-Pagnel, near Bedford, Kimbolton, to Sutton and Peterborough. It then disappears under the fen-land, but is found every where under the peat at the distance of a few feet. At Bourn it again comes to the surface, and continues its course to Folkingham, Heckington, Blankney, Lincoln, Market-Barsin, Carston, Brigg, and Barton, in Lincolnshire. Its greatest width is from Huntingdon to Thrapston, and from Lincoln to beyond Wragley. At these two places it is not less than 15 miles wide, though the average width of the whole line may be from six to eight miles.

This formation is so close and impervious that no springs are found in it; yet the surface is wet, either from the rain or from the water that comes out of the coral rag above it, or from that which arises from the stone brash upon which it rests.

AGRICULTURAL CHARACTER.—The richest and most productive pastures are on the soil of this formation. It is a brownish clayey loam; the herbage is most luxuriant in Wilts, Gloucester, and Oxfordshires, but in some places of Bedford, Huntingdon, Northamptonshires, and over portions of this formation, there is every shade of quality, from the rich pasture land of Christian-Malford and Daney in Wilts, to a cold, stiff, wet, yellow clay—a thin, cold, hungry, clay soil, or soft vegetable mould—a tender, cold, loose clay, lying upon a wet yellow clay.

In Bedford and Northamptonshires it is a close, heavy, compact, clay, and difficult to plough, except between wet and dry. The frost has a great effect on it, by reducing it to a fine powder; in wet weather it is dirty, but extremely loose and dusty in spring when dry. It is very deceptive in its appearance, and though it looks like a good loam, it is very thin and poor. The frost loosens the roots of the clover and wheat in spring, and the dry winds blow the plants out. The corn comes up luxurious, but looks yellow in May if the season be wet. This land under good culture produces good crops of wheat, beans, oats, and clover.

This soil is not only difficult to work, but is perhaps the most expensive of all the clays to cultivate; particularly that portion of it which is found in Bedford, Huntingdon, and Northamptonshires. It is sometimes covered with peat or black mould, as in the fens of Lincolnshire, where it forms a rich fund for improving the peat, which by an admixture with this clay becomes the most productive soil in the kingdom. In the vale of North Wilts the greater portion of this formation is in

pasture, and produces the richest herbage for the extensive dairies in this district, where the rich North Wiltshire cheese is made. In Gloucester, Oxford, Buckingham, and the vale of Bedfordshire, this soil is chiefly in pasture, but in part of Bedford, Huntingdon, Northampton, and Lincolnshire, there is a considerable portion of it under the plough.

It produces beans, wheat, oats, and clover. The poor pasture land on this clay in some places is so completely covered with ant-hills, that a person may walk across the whole field by stepping from one ant-hill to another.

On the surface there are frequently beds of gravel formed of very small rounded gravel, sometimes agglutinated together with a calcareous cement; and where this is the case the soil is more friable. The best means of improving this soil is to drain it perfectly, and then to deepen its surface by subsoil ploughing, to carry off the water from the surface to the furrow-drains, and to adopt the alternate system of cropping.—*Morton on Soils.*

ON THE CULTURE OF THE BUSH-VETCH.

(FROM THE IRISH FARMER'S MAGAZINE.)

I send you an account of the produce of an indigenous vegetable of this country; a vegetable which has hitherto, as far as I know, been uncultivated, but which, if I am not greatly mistaken, would, under proper cultivation, prove a valuable addition to the farmer's Flora, and be in many respects of more value to him than that celebrated exotic, lucern.

The plant which the statement respects is, the Bush Vetch (*Vicia sepium*, LIN.) It is a plant of the class *diadelphia* of the Linnean system, the order *decandria*, the genus *vicia*; the sixth species of Withering, and the seventh of Hudson. The root is perennial, fibrous, and branching; the stalks are many, some of them shooting immediately upwards, others creeping just under the surface of the ground, and emerging, some near to, and others at a considerable distance from the parent stock. The small oval leaves are connected together by a mid-rib, with a tendril at the extremity; the flowers are in shape like those of the common vetch, of a reddish purple colour; the first that blossom usually come in pairs, afterwards to the number of four at a joint; the pods are much shorter than those of the common vetch, larger in proportion to their length, and flatter, and are of a black colour when ripe; the seeds are smaller than those of the cultivated species, some speckled, others of a clay colour.

Being a perennial, it should seem to be a very proper kind to intermix with grass seeds for laying down lands intended for pasture; and that it is as justly entitled to this epithet as any herbaceous plant whatever, I think I may be allowed to affirm, having observed a patch of it growing in one particular spot of my orchard for these fourteen or fifteen years past.

It is not only a perennial, but an evergreen; it shoots the earliest in the spring of any plant eaten by cattle with which I am acquainted, vegetates late in autumn, and continues green through the winter, though the weather be very severe; add to this, that cattle are remarkably fond of it. These peculiarities, it should seem, would make it particularly valuable to the farmer as a green food for

his sheep in the winter and spring, when food of that denomination is so exceedingly scarce. Indeed I had often wondered within myself what could be the reason, that this plant had never found its way into general cultivation for this purpose; but since I have been acquainted with some peculiar circumstances attending it, my wonder has ceased.

From these I collect, that the chief reason which has hitherto prevented its cultivation, has been the very great difficulty of procuring good seeds in any quantity. The pods, I find, do not ripen altogether; and as soon almost as they are ripe, they burst with great elasticity, and scatter the seeds around; and after you have procured the seeds, scarce one-third part of them will vegetate, owing to an internal defect, occasioned by certain insects making them the nests and food for their young. Perhaps a detail of the circumstances which led to this discovery, may not be uninteresting.

In the autumn of the year, I collected a quantity of these seeds from the hedges, &c.,—March 15th, I sowed them in drills in a plat of ground in my kitchen garden, which measured exactly five yards square; they were sown in eight drills, as thick in the drills as I would have sown peas. They came up very thin and irregular; in some places there was more than a foot vacancy between plant and plant. This I was much surprised at, as the seed had been carefully preserved during the winter, and I could not from their appearance at the time of sowing suspect them to be in the least defective. The plants grew very sparingly till towards the autumn, but before winter, they made a tolerable appearance.

This plat is in the most exposed part of my garden; the soil a blackish loam, rather stiff; it had been planted with potatoes the year before, for which I believe it was manured, but I am not certain; the two preceding years it was used as a nursery for Lombardy poplars.

Early in July I collected some more of these seeds from the hedges, tied them up in a paper, and put them in a drawer of my bureau.

Upon opening the paper in September, I observed a vast number of dead flies in it, and as many of the seeds with a small hole in each. The number of the flies was 280. The whole number of the seeds 1080. These flies, upon examination, proved to be a small species of ichneumon. This puzzled me not a little, as I had learned that these insects were termed a race of cannibals, from their larvæ, or caterpillars, always feeding on their insects. Upon which I opened many of the other seeds that had no holes in them, and in several of these discovered another insect, alive, and in different states of its growth.

After the frosts were over, I was much pleased to observe, that scarce a plant of my vetches had been killed by them, and their verdure very little injured. In April, they had entirely filled up the ground, and were beginning to flower; at this time I found, as I expected, numbers of the bruchi intruding themselves into the blossoms, before they were scarcely open, and the attendant ichneumones ready to follow them. I used every method I could think of to chase away these insects from my crop, by strewing soot over, kindling smokey fires around, &c., but all to no purpose.

In the beginning of May the vetches were in full blossom, and it was amazing to see what a crowd of insects were swarming about them. At that time, I intended to preserve the vetches for

seed; but some time after, observing that they were beginning to rot from their over luxuriance, I cut them, without taking any particular account of the produce. They were cut twice afterwards during the summer. Having remarked in general that the produce of these cuttings was very great, I was determined this year to keep a particular account.

Accordingly, March 16, I began to cut the vetches for the first time this season. This cutting weighed, green, sixteen pounds. I did not dry any part of it, but must suppose, that if dried, it would have weighed at least one-fourth, as it was not near so succulent as any of the after-cuttings.

May 17th, they were cut a second time, in full blossom, and weighed one hundred and thirty pounds; thirty-six pounds of the green fodder weighed, when dry, six pounds.

July 21st, they were cut a third time, and weighed sixty-two pounds;—33½ lb. green weighed 8lb. dry.

September the 30th, they were cut the fourth time, and weighed, green, seventy-six pounds and a half;—15 lb. green weighed 2½ lb. dry.

The whole plat then of twenty-five square yards produced,

1st cutting	16 lbs. green,	supposed	4 lbs. dry.
2d ditto	130 lbs. ditto, would have weighed	21½ lbs. dry.	
3d ditto	62 lbs. ditto, would have weighed	14 lbs. dry.	
4th ditto	76½ lbs. ditto. would have weighed	12½ lbs. dry.	

Total 284½ lbs. green. 52 lbs. dry.

An acre, therefore, (reckoning 4,840 square yards to the acre) in the same circumstances, would have produced the total amount of

24 tons, 11 cwt. 3 qrs. 3 lbs. green.
4 tons, 9 cwt. 3 qrs. 15 lbs. dry fodder.

N. B.—You are to recollect, that at the time the first cutting was made, there was scarce a green blade of grass to be seen; and that the season, till after the third cutting, was as unfavourable to vegetation as perhaps any in the memory of man.

G. S.

M'EWAN'S DRAINING PLOUGH.

The following description of this implement was given at a late meeting of the Stirlingshire Agricultural Society.

MR. SMITH.—Among those gentlemen whose names are known as being practical improvers, we have Mr. M'Ewan of Blackdub. He has, with his usual energy, been very successful in forming a plough, by means of which drains to the depth of from 18 to 22 inches can be formed in carse land, and at the small cost of about 2d. per rood of 36 yards. Every one who has seen this plough working must admire the perfect manner in which it does its work in the carse lands, and it has also been so far successful in the high lands, although before it can come into general use in those situations, some modification of the form may be necessary; still there can be no doubt of its ultimate success, should the implement be made sufficiently massive and strong, and drawn by a powerful team of horses. The work of this plough is performed by its being of such large dimensions as to turn out the whole depth of the drain at once, and is followed by men with small spades to take out a space for tiles, and to give a proper level to the bottom.—It is worked by from eight to twelve horses, and in some of the stiffer clays sixteen may be necessary.—After allowing for tear and wear, and the keep of the horses, and wages of the men employed, the cost comes to about 2d. per rood, which includes the expense of ploughing, which is performed with the same implement. This most important implement is now making its way into England, orders having been received for it from that country.

SPADE HUSBANDRY.

We have seen a pamphlet upon this subject, written by John Yelloly, M.D., F.R.S., which purports to be a description of the system pursued on the property of John Mitchell, Esq., of Wattelfield, in the parish Wymondham, in Norfolk, who seems to have largely practised the spade husbandry, in order that "a great number of able-bodied labourers who were in almost constant dependence on parochial relief" might be profitably employed. "The farm on which this system was adopted, consists of 317 acres, of which 207 acres are arable, and 110 in pasture and plantations. It is a mixed soil, but is rather disposed to be heavy." As it may afford some interest to our readers, we shall introduce a few extracts:—

"Though the process was begun with a spade, a strong three-pronged fork, of 14 inches deep, and 7½ inches wide, which was found to be more manageable and less expensive than the spade, was soon allowed to be substituted for it, on the application of the workmen. It cost 4s. 6d., instead of 6s. 6d.; weighed 8 lbs.; and, when worked down, could be relied at a trifling expense.

"The digging is effected by taking in about 4 inches of earth at a time, pressing perpendicularly and getting to a proper depth at two thrusts. The earth is not, however, turned out of the trench to a greater depth than 10 inches, though the fork may get down as far as 13 or 14; but that which remains at the bottom, in the state of what is called "crumbs," answers the purpose, equally with the earth which is thrown out, of forming a permeable medium for the roots of the plant which is to grow in it. The men prefer working together, in order that their labour may be as nearly as possible on the same description of soil; but each takes in about 9 feet in width; so that his work can be easily measured. The plan is to have a breathing about every half hour, and the men never work more than the regular amount of ten hours per day. They work the land in ridges of about nine feet in width, and the furrows dividing them are sometimes made by the plough, previously to the digging, and sometimes by the management of the labourers, during the work, assisted by the eye only.

"The men receive for the ordinary digging after a white crop, from 2d. to 2½d. per rod of 30 square yards; the price varying according to the tenacity of the soil, and whether manure is to be dug in. Where the land is to have a fallow crop, that is turnips, mangel wurzel, or cabbages, (for no part of the farm, or the land in the immediate neighbourhood, has ever a naked fallow) there is first a ploughing, which is done at a season when the horses can be best spared, afterwards a digging at from 1½d. to 2d. per rod. In preparing for a fallow crop, there is also an expense incurred in harrowing, and in raising a ridge with the plough, which last is worth about 7s. per acre.

"The ordinary earnings, in digging, are from 11s. to 12s. per week, according as the rate of wages may be high or low.—Mr. Mitchell is of opinion that a course of seven years, instead of the usual one of four years, is best adapted to spade husbandry, and his object has been to act upon this system as much as possible.

"Spade husbandry, indeed, can hardly be expected, even in its completest form, altogether to exclude the plough, when carried on to a considerable extent; for, as a certain number of horses are necessary for various operations on a farm, these will naturally be employed in ploughing, when they

are not required for other duty, rather than they should stand idle. Twenty labourers, besides a bailiff, are kept upon the farm, instead of thirteen, who would be necessary under the ordinary system; and five or six horses, instead of twelve. With so small a number of horses, it is clear that they would not be equal to all the demands of the hay and corn harvest; and hence, a good deal of the hay and corn are always stacked in the fields where they are grown.

"Mr. Mitchell considers it to be an advantageous consequence of spade cultivation, that it improves the soil so much, as to enable it to bear the clover or artificial grasses two years instead of one; by which means the expense of one year's tillage is saved in the course adopted.

"After an experience of five or six years, Mr. Mitchell has satisfied himself of the advantageous nature of spade husbandry, and of its adequate productive powers; but as his ordinary avocations require a great deal of his attention, it may have happened, he thinks, that the practice has not had quite so fair a trial with him. At present, there is much less necessity for spade husbandry than when it was first commenced; inasmuch as since the poor-laws have come into operation, there is no redundancy of labour in his neighbourhood.

"In the employment of 20 men instead of 12 or 13, there seems to be no doubt, that if this plan were carried into effect to a moderate extent only, the demand for labour would be augmented at the places where it is exuberant; while in case of any future insufficiency of hands, the plough would be still a resource.

"Spade husbandry is not a system of expense or risk. Less capital is necessary for it than ordinary husbandry, in the smaller number of horses and implements required, while the advantages are speedily exhibited. Its tendency is to diminish and keep down the poor-rates, and thus to aid materially the favourable operation of the poor-laws; while at the same time, it raises the workman in the scale of society, by increasing the amount of his remuneration, and by making it dependent on steady habits of industry.

"Spade husbandry bears a considerable resemblance to horticulture in its operation on the soil, which it comminutes and cleanses much more thoroughly than can be done by the plough and harrow.

"The plough is indeed a clumsy and imperfect instrument, which the mechanical philosopher has hardly thought it worth his while to aim at improving. It is quite inadequate to preparing the ground for various vegetable productions. Effective planting, whether of vines, forest trees, or shrubs, requires the soil to be not only dug, but trenched, in order to allow room for the roots to diffuse themselves in it. No gardener would think of planting potatoes, carrots, or cabbages, in ploughed land, if he could get it dug; for the difference of produce far more than compensate the difference of the expense. But if this were even not the case in agriculture, and the expense of digging land were no more than made up by the augmented produce, still an important balance would remain in its favour, in providing employment for the poor, at all times when there is a redundancy of labour beyond the usual and ordinary demand for it."

MASTER AND SERVANT.—A case of great interest to our agricultural friends came on for trial before the Sheriff on Tuesday last. A servant sued his master for arrears of wages due to him, and which had

been withheld in consequence of the damage sustained by a horse in his (the servant's) charge, from neglect or disobedience to orders. The servant had been sent with a cart to Carnbee, with instructions as to the road and business he was upon. In the face of these instructions he, of his own accord, and on his own private business, deviated about twenty minutes drive from the route prescribed to him. While thus away from the line of his destination he took off the bridle from his horse's head, and fed him with some tares. The horse ran away, and was only overtaken when he overturned the cart into a ditch. Before the accident the horse was worth from 30*l.* to 35*l.*, and worth less than one-half of that after the accident occurred. The servant had after this served out his time. His master at the term, however, refused to pay him his wages. The Sheriff found in favour of the master, as the accident had occurred while the servant was in the act of disobeying orders, and in a place where, if he had done as he was desired neither he nor his horse would have been.—*Fifeshire Journal*.

IMPROVEMENT OF SMALL PASTURES.

The general improvement of agriculture in the large way, and the introduction of chemical science, as a powerful auxiliary, have of late occupied the attention of many wise and good individuals, whose efforts will never, I trust, be relaxed, till a new order of management supersedes the ignorant adherence to routine which has left the agriculturists, as a body, a century in arrear of the manufacturers. But there is a class of persons who, though they cannot rank as farmers, and are not in a situation to take interest in the advance of science, depend upon the product of the soil for a great part of their comfort and support. Such are those who, with limited incomes, occupy small tenements in the country—cottagers with a garden and paddock; in a word, "all who are obliged to be rigid economists, and to make the most of their means." A cow is, perhaps, one of the greatest treasures that an industrious cottager can possess, and it is astonishing how much real profit may be derived from one, if its owner understands his business; but food must be provided, and to turn a small meadow or orchard piece, with a few trees in it, to the best account, is an affair of no small consequence. I have witnessed what may be done towards the support of a cow (which made the most ample return, by a large supply of milk, cream, and butter) with a piece of grass land, scarcely half an acre in extent, and therefore am prepared to speak experimentally. The field I allude to was seven years since an orchard, containing several old trees, under the shade of which the grass became of a coarse and valueless character. By degrees the worst of the trees were removed, the holes filled up, and the surface rendered as even as possible. It has subsequently been treated in the following manner:—In the dry weather of March the grass has been raked over with iron rakes—for the piece being small this has been practicable;—and raking is more effectual than bush-harrowing in clearing off dead herbage and slightly raising the surface of the soil, thus preparing it for the reception of a sprinkling of the true Dutch white clover. One pound or a pound and a half of this seed was found sufficient; it was applied annually, and at length a very fine bottom of clover was obtained. After sowing, the piece was carefully rolled. On one occasion a few grass seeds were added, chiefly of *solum perenne* (rye grass) as no other could then be obtained. In lieu of this, the cock's-foot grass (*dactylis glomerata*) would be most

beneficial. The seed ripens in July, and it is strange that country seedsmen rarely keep it. After rolling, a few barrow-loads of fresh maiden loam, scattered over the surface, have always been productive of manifest advantage.

A proper manuring of the land is the next object of importance; this should always be given late in October or in November; and any decomposable matters will effect the object. Twice, with an interval of three years, *old night soil* was used, to the extent of twelve to fourteen barrows; but frequently loamy soil, with a small proportion of coal-soot, common salt, and wood-ashes, formed the manure. The winter rains washed down the finer and soluble substances, and thus prepared the herbage for its first spring starting; and whatever littery matters remained, were cleared off at the time of raking. These were the points chiefly attended to for the improvement of the small piece of meadow, and the results were most satisfactory. The object in view, and that which I would recommend to every cottager is the feeding of the cow in the stall or yard—a practice which bears the singular appellation of *soiling*—but *never in the field*. "A cow thrives best upon good natural grass or hay; but where there is but half an acre of meadow, it will be impossible to derive her whole support from so small a piece of land; and were she to be pastured upon it, *she would trample down and spoil three-fourths of the entire herb in less than a week*." I retain the opinion which I thus expressed some years ago, and I now add, that a small field may be so improved by moderate autumnal manurings—chiefly of good loam, salt, and soot—by close shutting up during winter (unless, indeed, a few sheep graze it in January), by raking, sowing, and rolling in March, that, if a showery spring supervene, the grass may be cut over three times between the third week of April and the first of July. On one occasion (1832), the grass of the meadow described was so luxuriant, that about mid-July half of it was of necessity cut down for hay.

I will speedily notice the auxiliaries of the meadow for winter food; at present it must suffice to observe that whatever be the merits or demerits of *old pastures*, in an agricultural point of view, the paddock of the cottager may, by wisdom and assiduity, be rendered a source of much emolument.
—*Gardener's Gazette*. AGRICOLA.

HUNTINGDONSHIRE AGRICULTURAL SOCIETY.—We feel great pleasure in being able to inform our readers that this society is most favourably progressing, indeed it has exceeded the expectations of those who started it. The Earl of Sandwich has, in addition to his annual subscription, most nobly come forward and presented the society with 25*l.*; also Edward Fellowes, Esq., M.P., in the like noble manner has given 20*l.* towards forming a fund for prizes and rewards for the current year. This liberal and praiseworthy example we understand has been followed by other noblemen, clergy, gentlemen, and farmers of this and the adjoining counties. We are sure that it will be pleasing to our readers to hear that Mr. Jonathan Martin, of Broughton, has most handsomely presented to the society 5*l.* for the same purpose. This society has for its object the encouragement of good morals and industrious habits amongst the poorer classes—comprising contributions towards benefit clubs, careful shepherds, long service, skilful labourers, honest independence, and every encouragement is held out to the enterprising farmer, either in the breeding, rearing, and fattening stock, or in the cultivation of roots, as cattle food, or in the general management of a farm as to draining, or a judicious application of artificial manures. We must also observe, that politics are excluded from this society.—*Cambridge Independent*.

RURAL ECONOMY.

LETTER TO A GLOUCESTERSHIRE VALE FARMER.

SIR,—Some months ago I sent you an account of a comparison between the quantity of work that could be done with small carts, each drawn by one horse, and with the common large carts generally used in the vale of Gloucester, each drawn by three horses. By this it appeared that in two hours, three horses in the small carts did a very little more than what is usually done by four in the large ones, in hauling out dung. I told you, however, that that experiment was not considered quite satisfactory, and that it was to be repeated at stone-hauling. It was not satisfactory because two large carts were used in the usual way, but there were only three horses for them both, so that in order to bring it to the same thing in effect, *time was allowed* for taking them out of one cart and putting them into the other at every load. Had this gone on through the whole day it would have been unfair, because all the horses in the large cart would have been constantly at work, whereas those in the small ones would have stood and rested while the carts were being loaded, but for so short a space as two hours we cannot suppose them unable to have gone on without wanting rest. Had it been necessary, and had the allowance of time been given, and the horses so changed in the small carts also, it is clear that two would have done the work of the three, so that there would still have been the saving of one.

The experiment has now been tried in stone-hauling. Two heaps of thirty-two tons each were to be hauled a mile and a quarter on the same road. The large carts with three horses (so that they were to be changed as before, only as it was to be a trial of three horses against three, no time was allowed for the change,) began at the usual time, and worked about six hours, but finding it more than a common day's work to take out the whole, they stopped—and began again the next morning. They thus finished their work in eleven loads, which of course is nearly three tons to each load, or one ton to each horse, in *nine hours and fifty minutes*. The small carts began at the usual time on another day, and took the other heap to the same place at twenty-one loads, being nearly one ton and a half to each horse, in *six hours and one minute*, which was a saving of about three hours and a quarter on nine hours and fifty minutes, or rather *more than one-third*.

It will not have escaped your observation that according to the common usage of this country, four horses should have been used in the large cart, one horse would then have been standing still and at rest while the cart was being loaded, and so would have been more fresh while drawing his load. As it was, those in the small carts had the benefit of these rests, which the others had not, which makes in favour of the system, though it takes in some degree from the fairness of the experiment;—it was certainly hard upon those in the large carts to be drawing the whole time.

I know it will be said that my horses which drew the small carts are stronger and more active, and of course better than the others. I believe they are so—but I ask why farmers' horses are not as good as mine? I bred them, and they cost me no more in the breeding than common cart horses would have done. The sire of them is now in my possession, but old and nearly worn out, having been at work in my carts for thirteen years. I allowed him to travel for two or three years, and any one might have used him at the common price. Farmers did not like him,

because having but little hair on his legs they said he was not a cart horse. I knew his value—I used him, and the result must be acknowledged by all who object to the fairness of the above experiment, on account of the superiority of the horses. I have a son of his which I mean to use in due time. Other powerful clean-legged horses generally travel the country at the usual time of the year, and may be used by any one. Another reason for using this sort of horse is, that if a man should at any time choose to breed for sale, if he were to cross one of these mares with a thorough-bred horse, he would at a very little more than the expense of breeding a cart horse, have a colt that at four or five years old he might sell to a London dealer to go into a gentleman's carriage for 20*l.* or 30*l.* more than a cart horse would sell for; and should he meet with an accident which would make him unfit for this, he would be still valuable as a stage-coach horse.

But to return—I think these two experiments have pretty clearly shown that a saving of one horse in four may be effected in cart work. In my former letter I endeavoured to show too, that by using Ransom's or some other of the improved ploughs, a considerable saving may be effected in plough work, and by the following calculation I endeavoured to meet the great objection to every change of system, namely, the expense. By this it appears that three small carts at 12*l.* each would cost you 36*l.* and a new Ransom's plough about 5*l.* making together 41*l.*, which you would of course have to pay. To meet this you would sell your two old carts for, say 4*l.* each; you would sell one of your horses for, say 18*l.*, and in the first year you will save his keep, which including his food, his harness, his farriery should he be ill, and his wear and tear, will not amount to less than 20*l.*, making together 46*l.*, or 5*l.* more than was necessary, to which you must add the benefit of having a new set of implements instead of one half worn out, and a saving of 20*l.* a year for the future, by using a horse less than you now keep.

But not only the sort of horse, but the expense of keeping, and his condition, are worth the consideration of the farmer in making his team profitable. To get at the price of this we must first inquire into the value of hay and oats, both of which are just now above an average price. In reckoning that of hay, we must remember that if a saving of it can be effected, it will enable the farmer to keep more stock, or to keep what he has better, and on either he will get his profit. It will not then be too much if we reckon this at 3*l.* a ton, or 3*s.* a cwt. as an average price. Let us say that good fair oats are worth on an average 24*s.* a quarter, or 4½*d.* the half-peck.

Stage-coach horses do more work while they are at it than any horses that are known—they generally eat two pecks of oats a-day, and very little hay, so that the cost of their keep is about 1*s.* 10*d.* a-day each. Soldiers' horses eat not quite a peck of oats and 12 lb. of hay a-day—the cost of their keep is not quite 1*s.* 1*d.* a-day. Gentlemen's carriage horses consume about the same, but the condition of all these is higher than is necessary in farm work.

Farmers in general give their horses no oats. Some keep them on hay alone; some give them hay and straw cut into chaff, and some give them a few brewers' grains with other things. In either case the hayrick is the main stay. It grows on the farm and costs but little, and if it will last till the grass comes again, few farmers care for anything more; but if a saving in it can be effected, by which another heifer can be constantly wintered, or one which has been turned off may be made fat, no one will doubt the profit that will arise to the farmer from it.

The rick generally stands just by the stable, the cutting-knife is always in it,—the carter and his boy cut without stint, and often keep the racks full. The horses blow upon it, and throw much of it under their feet. The quantity thus eaten and wasted by each horse is seldom so little as a quarter of a cwt. a-day, even if some little chaff be given with it. The cost of this is 9d. a-day. If 12 lbs. only were given and half a peck of oats, the cost would be the same, but the saving of hay on each horse would be about 14 lbs. a-day, or enough to winter a cow for each horse more than he keeps at present, upon a supposition that both are thus kept for six months.

By this the saving of expense would be nothing, but the profit on the additional stock will be something, and the improvement in the condition of the team will be very considerable. Half an acre in a day is as much as three horses generally plough. If they were allowed half a peck of oats a-day, and the smaller quantity of hay, they would plough nearly *three quarters of an acre*, with no more fatigue than they now plough the half acre, so that they would earn, say one-fourth more than they do now. They would be ready for any other extra work that would be wanted from them—they would last much longer and the colts would grow into much more valuable horses; but then the farmer must himself deliver out the proper quantity of hay for each of his different kinds of stock, and *he must keep his cutting-knife locked up*. If this were done but for one month, there are few who would not be astonished at the quantity saved.

I have small hopes of hearing that these experiments, or any of them, are likely to be tried. Farmers, hereabouts, do not seem to think it necessary to have such a capital on taking a farm as they would require in most other business; therefore they are always short of money, and therefore they become habitually afraid (even when they have a little at their command) to lay it out when there is almost a certainty of its being returned to them again, with a great increase. No man can farm with profit if he is obliged to buy a bad thing because he cannot afford to buy a good one, or still worse if he is obliged to do without having it at all. He ought not to feel himself necessitated to sell a thing when the markets are so rising that it is pretty sure to bring a better price in a few weeks hence, and yet this must happen when money is scarce. No man can begin to farm to advantage if he has not at least 7l. an acre in money or in money's worth to start with, *without having any interest to pay for it*. By a worn out plough when patched up to make it last, a man will increase the work of his horses, and decrease the quantity of land ploughed, so as to make him lose the value of a new plough in a few weeks, and by going without some tool that he may want, he will often lose the value of that also in one season. With a good scuffle or couch harrow, a man may often so clean a field as to avoid a fallow, and it is hard indeed if his crop would not more than pay for a new one. This is the greatest bar to all improvement that we have to contend with, and it is of course impossible to remove it entirely. It may be done in part however and by degrees, by the introduction of some of those alterations and amendments, both of tools and system, which can be obtained at least the expense and which are found and may be seen to answer by those who are at this time using them. There are many such scattered, but thinly it is true at present about the country, and if you would take the trouble of looking at these from time to time, and of procuring any one or more of them that you shall think may be useful on your

land, and of laying out the money that they will save you on any other improvement that you may wish for, you will benefit yourself very considerably, and you will do an important service by forwarding the introduction of improvements in your neighbourhood. I remain, Sir, &c.

YOUR LANDLORD.

ON THE INCREASING PRICE OF BONE MANURE.

Sir,—As the price of bones, in the last 25 years, has steadily increased from a few shillings per ton to five or six pounds, and there is no probability of a reduction, will you allow me to suggest to the numerous ship-owners, who read your valuable paper, the use of fish bones to the farmer, and their value as an article of importation? Of these in the seal and other fisheries, great quantities are now wasted, since the fishermen are not at present aware of their value. The prejudice which is said to exist against them by the farmers in some instances rests on no solid foundation, because the chemical composition of the bones of quadrupeds and fish is nearly the same, as may be observed from the following table of the results of the analysis of MM. Berzelius, Foureroy, Vauquelin, Merat Guillot, Davy, and others—of 100 parts of each of the following bones:—

	Phosphate of Lime.	Carb. of Lime.	Cartilage.
Bone of the ox	37	10	51
" calf	54	—	46
" horse	67 5	1 25	31 25
" sheep	70	5	25
" hog	52	1	47
" pike	64	1	35
" carp	45	5	50
" frog (burnt) 97½		2½	—
Lobster shells	14	60	74
Crayfish shells	12	60	28

By the plan at present adopted in the seal fishery, as soon as the blubber is cut off, the skeleton of the fish is suffered to sink; surely these bones might be easily and profitably stowed away between the casks; they would at present fetch from 4l. 10s. to 5l. 5s. per ton. As some of the poorest soils of England are now successfully maintained in cultivation solely by drilling bone dust with the turnip seed, and the advancing price betrays the increase of the demand, other means besides those at present adopted might certainly be used to augment the supply.

It has been suggested to me, that gypsum is occasionally mixed by the dealers with the bone dust, which is a very hurtful adulteration, since bones are employed the most extensively for turnips, to which sulphate of lime is not a fertilizer. It would be much better to mix them with the shells of fish, or the fossil bones of this and other countries; the value of fossil bones, as a manure, has, in fact, never yet been clearly established, my own experiments have been too limited to enable me to decide; my opinion, however, as far as I have been able to examine the question, is in favour of the fossil bones, which if proved to be a correct conclusion, would be one very important to the farmer, since these abound in various parts of the earth; for instance, in Spanish Estramadura, they are described as being so plentiful that the farmers construct their fences of blocks of them; they are found also in Germany, Hungary, and even in Britain, although not in very large quantities.

CUTHBERT W. JOHNSON.

14, Gray's Inn Square,
March 15, 1838.

ON THE MANAGEMENT OF FENCES.

The first thing, perhaps, in the scale of importance for the agriculturist to turn his attention to, is—the squaring and due proportioning of the different subdivisions of the farm, the want of which makes them in many instances ridiculous to look at; and, from the temporary manner in which those old ditches were originally made, half the farmer's time is taken up in the Spring of the year repairing them, when that time could be more advantageously employed at other and more useful work. Those old ditches should be turned over, and mixed with lime or any other decomposable matter, which will make them a valuable compost for the farm. The number of those new subdivisions should be in proportion to the whole extent of the farm, or the course of rotation to be practised on it, and is a matter which should have considerable weight in the arrangement of them by the agriculturists. No new ditch should be allowed to be made by the landlord, without being planted with thorn quicks, and an ash put in at the distance of every six or seven yards. By following this plan, when those hedges and trees get up, a neglected property would, in the course of a short time, appear like a gentleman's immediate demesne. Besides the great advantage of shelter to the farm, the land is becoming infinitely more valuable to the proprietor, by the growth of so much fine ash on his property, while it also, in some degree, changes the climate for the better, and actually improves, by imparting a warmth to, the soil. Those new ditches, the dykes of which are left open, but when the fences grow up, may be all closed, by making good stone sewers in them—in either case, those dykes act as so many minor drains for the different fields. There are other circumstances, connected with the duties of an agriculturist, of which he should have some knowledge: that is, the erection of necessary and permanent farm-houses and offices, the proper site for them, and the probable expenses of each, according to their size, the wants of the farmer, or the size of farm. He should, also, be able to explain the great advantage of having those buildings of lime and stone, and in every instance slated, not thatched, nor the walls of mud; and he should, also, be able by calculations, to shew the farmer, that, if all the different thatchings and repairs which were necessary to keep a house dry during the term of a lease, were taken into account, the amount would much exceed the cost of slating, in the first instance; and, that a house, when once slated, (if well done, and of good materials), hardly requires any more attention during his lease. It would be unfair that such permanent improvements as these should come out of the pocket of the farmer; for although they may add to his domestic comforts during his tenure, they ultimately enhance the value of the property for the landlord. There are many instances where the landlords do all this for their tenantry, without encroaching on the poor man's capital at all. There are other cases where landlords or their agents are good practical judges of such matters, and who not only look to the rents, but also to the progressive improvement of their properties. They lend to their industrious tenants the amount required to build those necessary appendages to the farm, and charge a moderate interest for the sum advanced, until it can be repaid by instalments; or they add a moderate per centage to the original rent of the farm, in consequence of the improvements made upon it, and by these means they insure the repayment of the outlay, and are, at the same time, permanently improving and enhancing the value of

their properties. Another circumstance, which should come under the notice of the agriculturist, is—the breed of cattle on the property, or whether the nature or circumstances of the different farms would not admit of a good deal of improvement in this way, and so increase the means of the farmer for the paying of his rent. I shall now return to that part of this communication, which has a reference to the squaring of fields, in forming the subdivisions of the farm, and, also, of the necessity of insisting upon all those new ditches being quicked, but I should have mentioned, that the landlord ought to be expected to provide those quicks, or he should have a nursery on his own grounds, or on the property where these improvements were making (this, a plain forest tree nursery, to be managed by the agriculturist.) In this nursery, all the sorts of trees and quicks necessary for the improvement of the property, could be raised at a very trifling expense, and the landlord would have them, by this means, always at command, to supply the wants of the estate. This would be a great convenience. Sending for them, perhaps several miles, and probably many days raised before they could or would be replanted, would be a sure cause of their partial failure. All those inconveniences would be obviated, by having those trees and quicks grown on the property where they are to be finally transplanted. I know I am now treading on very tender ground, and that many of my friends, the nurserymen, will say, this man means to be no friend of ours. I am, however, of opinion, that the great majority of the respectable nurserymen are incapable of forming any such narrow-minded views; and it is my conviction, that the forest tree department of their nurseries is any thing but a profitable one. There can be no difficulty whatever in the establishment of a nursery, such as I have pointed out, in any part of Ireland, even in bleak and cold situations, by planting some lines at convenient distances asunder, of the quick-growing trees. There will, by this means, be shelter enough made, in the course of two, three or four years, for the raising of every description of forest trees; but, there is hardly any property in Ireland, where an eligible site for a nursery cannot be selected, without being obliged to resort to the alternative mentioned. Of course, I mean that all the different sorts necessary to stock this nursery (or at least, the greater part of them) should, in the first instance, be bought in, seedlings or one year olds, the after management to be left to the conductor.—*Correspondent of Irish Farmer's and Gardener's Magazine.*

ON THE BREEDING OF SHEEP.

Sir,—Your Correspondent J. G., of Rutland, invites information as to what breed of sheep is best suited for a farm in the midland counties, the best mode of establishing one, and what description will give the greatest return per acre.

Doubtless many will be the opinions of different breeders, but on one point I think we must all agree, "That the one which will give the greatest return, will be such of which he can keep the greatest number in proportion to the food consumed, and in his annual sales, return the greatest amount of profit." Assuming this proposition to be generally assented to, it next becomes necessary to inquire, for what purpose the flock of J. G. is required, whether for stocking or grazing, as on this the decision as to the most eligible breed, must mainly depend. As grazing sheep, the Lincoln, old and improved Leicester, Devon, and improved Cotswold, have been kept with various success; but during the last seven years, when quantity and length of wool have been great considerations, the latter breed has been

grazed to the greatest advantage; but in this, as well as in the others mentioned, there is an objection which appears to be yearly increasing; it is, that the mutton is too large for the altered taste of the English people, and that much of the coarser parts is disposed of by the butchers at so low a rate, that they cannot afford to give so much per stone for this as for the smaller mutton. This is the material objection to the larger breeds; but at the same time it must be acknowledged that these sheep, from their quiet dispositions and fattening propensities, will acquire more weight on rich pastures, on a given quantity of food, in a limited time, than the more restless, prowling, smaller breeds—such as the Hampshire and Sussex Downs, Norfolk, &c.—whose mutton is unquestionably finer and more saleable at higher prices, but which are objected to as not bearing sufficient wool, or coming to maturity until a year or two after the larger breeds.

What then appears to me the more profitable breed for grazing, is such as I described in a letter on the subject of crossing in your paper of the 4th of December last, and which also appeared in the Farmer's Magazine for January. The produce of a good Down ewe and an improved Cotswold sheep. This is the first cross; and in it you have an union of the good qualities of each breed, with the objection to size and coarseness much lessened, an animal between the two extremes, more saleable in the market, and sufficiently large to arrive at early maturity.

But if, as I am inclined to believe from the nature of his communication, your Correspondent J. G. has in view the establishment of a folding flock, one which will have occasionally to feed and work hard, I should then say let him look to my observations in the communication before alluded to, on the second cross of this description of sheep, in addition to which, I will add a few more observations on their capabilities. Assuming a farm to consist of land of moderate quality, of a description which will bear the alternate system of husbandry, and of sufficient dryness to allow the green crops to be fed off by sheep, he may calculate on keeping a breeding ewe to every acre of arable and pasture land, besides a sufficient number of ewe-togs or hoggets, to replace his annual sale of old ewes; which is supposing the farm to be 500 acres, he would shear 500 breeding ewes, and about 150 togs or hoggets. It must be borne in mind I am speaking of an arable farm, the land of which requires to be regularly folded. Now as the Sussex or Hampshire Down, and the Norfolk, have hitherto been considered among the best folding sheep, I will state my reasons why I consider the second cross (viz.—the produce of a black-faced ewe by a half-bred Cotswold and Down ram) to be far preferable—reasons which have been suggested after seven years strict and impartial trial of the Hampshire Down of the first order, and half-breds, under all circumstances of good and bad keep, on a Hampshire farm the arable land on which has been lately valued below 18s. 6d. per acre, pasture (15 acres only) at 55s., and water-meadow at 60s. per acre; the latter bears a proportion of one-tenth in quantity to the arable. At this price, all subject to tithes.

First, I have proved that the second cross sheep is equal to all the travelling to fold which is required of the Down.

2dly, That the same number can be kept.

3dly, That from its inheriting the kindly qualities of the improved Cotswold, it will thrive much better; that the deeper breast, wider shoulders, bowed ribs, wider loins, and longer projecting rumps, constitute a frame, which, while to a superficial observer, does not present a much larger appearance, gives the animal a decided advantage in weight, when fat, over the Hampshire, Down, and Norfolk sheep, in which these points are notoriously deficient.

4thly, That the quality of the mutton thus twice crossed, and possessing two degrees of Down, loses the objection to coarseness and great size.

5thly, That the colour of face and legs will be in the proportion of 90 in 100 dark, and unobjectionable in all.

6thly, From the thickness and quantity of the wool they have a decided advantage through the winter, are thereby rendered hardier, the fleece, when of a good description, being impervious to incessant rain, beyond the depth of two inches—the wool of togs or hoggets varying from 6 to 8 inches in length.

Lastly, The quantity of wool will exceed, by two pounds per fleece, that grown on the average by Downs or Norfolks, and this of a description the most valuable for combing, which a glance at our position in respect to the yearly increasing importations of short wool, and the fact that no foreign LONG wool will bear a comparison with the English, will appear to be a consideration beyond all the others important.

These, Sir, are the conclusions I have arrived at; they compose but an individual opinion; and "J. G." and others will perceive, on reference to the letter I have before alluded to, that I have offered to put that opinion to the test, once, twice, or thrice, and can meet with no competitor. I hope the inquiry of "J. G." will lead to many answers and communications on this important subject; I am ever open to conviction, but as the results of a strict and impartial trial, must, of necessity prove of greater force than the best of arguments, I trust there may be yet a chance of testing my often repeated opinions, expressed, I freely admit, on first sight, to those who have not had conviction "carried home" by proof, in a tone seemingly too presuming and confident.

As time is now more precious at this busy season than when I forwarded you my last communication on this subject, I beg to refer "J. G. of Rutland," and all interested, to the particulars there set forth, the purport of which is to prove, that the sheep which will return most profit to the breeder and feeder is the one most to be recommended, and which I hold to be a well selected cross of the improved Cotswold and Down, differing in the degree of cross, according to the purposes for which they may be wanted, and the quality of the soil on which they may be fed.—I am, Sir, yours obliged,

J. T. TWYNAM.

Whitchurch, Hants, March 15, 1838.

ON MANGEL WURZEL.

COMPARATIVE MERITS OF THE RED AND THE GLOBE, THE BEST MODE OF CULTIVATION, &c. &c.

Writtle, March 14.

SIR,—Some observations having lately appeared in your journal respecting the culture of mangel wurzel, and also as to the comparative merits of the different varieties, has induced me to offer you a few hasty remarks upon the subject. One of your correspondents, who writes from Coggeshall, endeavours to bring a new variety, called the globe, into notice, and states that it is superior to, and more productive than that of the other varieties. So far as his experiments have been made it may be so, and would probably in other districts, adapted especially to its growth, and to test it fairly, care should be taken to have seed of the best kinds of both varieties to put into competition.

In the year 1828 I inserted a letter in the *Chelmsford Chronicle*, upon the best mode of cultivation, the substance of which I will again repeat, with such additions as from experience I have since obtained; and first as to the preparation of and quality of the soil. That best adapted is strong moory, loamy, or strong clay land of deep staple and good quality, which should be ploughed up immediately after harvest, and got into fine tilth if possible, and if of the lighter description of soil, it should be ploughed upon ridges about two feet four inches to three feet wide; if upon strong heavy land, and clean, it is best to manure first and plough afterwards upon the stretch, leaving the land to the effects of frost to pulverise; and if the weather admits, the ma-

nure may be carted upon the ridges, spread into the furrows, and ploughed in before the winter. If the land cannot be sufficiently cleaned before the spring, it must be effected in March and April; but should the weather afterwards prove dry, the plant is not then so likely to succeed.

The land should be lightly scarified in the latter part of April, and the seed drilled or dibbled in at spaces of one foot distance. Three pounds of seed per acre are found sufficient. The seed should be planted not less than one, or more than two inches in depth, and the land should be rolled down immediately afterwards, the great object being to prevent the moisture evaporating as little as possible. After the young plants have advanced to about three inches in height (which will generally be in about three weeks from their first appearing), they should be carefully singled out, which is best effected by parting the strongest plant from the rest, and after securing it with one hand, pull away the others without disturbing the roots of the one left. The culture should be carefully followed up, and on no account suffer the young plants to be obstructed by weeds; the hoe should be kept actively employed, and as the plants advance draw the earth from them, so that the ridges will become level by repeated hoeings. By about the middle of October to November the roots will have come to maturity, and should be then pulled, carted, and s'ored, never allowing more to be pulled at once than can be carted during the day, as should a frost happen, these pulled would be spoiled, and would afterwards rot. A dry situation should be selected for securing it upon for winter use; a space about ten feet wide should be marked out, and long in proportion with the quantity to be stored,—upon this spot the roots should be carefully packed with the crowns outwards, and brought up to a point at the top, like the roof of a stack, so as to raise them about eight feet high. Straw or halm about six inches thick or more should be thatched upon them, and the whole must then be covered with earth, about twelve inches thick, beginning at the bottom and working upwards, leaving about one-third of the upper part unearthened until the frost may be expected to set in, for if the whole of the earth is put on at first, it may so confine the air, that the fermentation will thereby be so much increased as to destroy the roots; the clamps must be further protected with thatch, or straw, or farm-yard manure, if the winter proves severe, keeping the opening of the clamp well closed with stable dung, to prevent the frost getting through to the roots. Upon this plan I have preserved my roots through the severity of this winter without any loss.

The expense of cultivation may be stated as under—

	£	s.	d.
Three ploughings	1	7	0
Twenty loads rotten manure, two-thirds charged	3	0	0
Seed	0	5	0
Cultivation	0	15	0
Pulling, carting, and clamping	0	16	0
	6	3	0

As the land will be completely fallowed, no rent is charged. There are two descriptions, the red and orange, which are cultivated in this district, and of these two varieties the long roots, or the round or globe shaped. The long red variety is the kind that has been cultivated, and still is most approved, some roots of which I have produced two and a half feet long, and about twelve inches in circumference, long, and of equal size, of a beautiful red colour, with small root, fine crown, and delicate leaves of a bright green, with red veins. If the seed grown from these be repeatedly planted upon the strong clay soils of this county, it will degenerate into a coarse thick sort, with many fangs, which goes far to prove that it will succeed on heavy land better than the globe kind. The orange varieties are less productive, but more nutritious. Mr. Samuel Gooch, of Sandon, an experienced cultivator, has been long endeavouring to obtain a choice stock of both varieties of globe, in which he has succeeded to perfec-

tion, and it is to him that we are indebted for its introduction into this district; he will furnish the different varieties to persons wishing to experiment upon them, for which he obtained a prize at the Chelmsford Agricultural Show.

Some care is necessary in first feeding animals upon it, or they will eat so much that it will produce apparent paralysis, which they, however, soon recover, but frequently refuse it for some time afterwards; about half a bushel per day should be given for some time, increasing the quantity gradually; but animals that have been accustomed to it previously, thrive well upon it without any hazard as to their effects. I feed every description of stock with it, bullocks, cows, calves, sheep, and hogs, and all thrive well; it is much improved by keeping late in the spring months, when it becomes invaluable. Animals always appear warm in the most severe weather if fed upon it, and with the addition of plenty of dry food, will all do well. Breeding sows and small pigs are injured by being fed upon it. The quantity grown per acre varies from 15 to 30 tons, and is, if properly stored, available during the most severe frosts, and always eaten with great avidity by every kind of stock. The roots are mostly planted out in March for seed, and are frequently very productive. The advantages over other roots are many; first, it can be grown upon almost every description of soil, and where turnips cannot be obtained. 2nd, The produce is greater than from any other description of root or vegetable. 3d, It is taken from the land with little injury by carting off in dry weather. 4th, It is available for use at all times during the winter, and (if carefully stored) late in the spring, after the turnips are consumed or destroyed; and Lastly, It is adapted for using with all descriptions of stock, including horses and colts. No root has a name better applied—the *root of scarcity*—for in seasons in which drought is prevalent, and when the turnip crop fails, there it is found flourishing, having a capability of resisting excessive drought a long time. It ought not to be used for grazing before the spring if it can be avoided.

Your readers, I trust, will excuse my occupying so large a space of your excellent paper upon this subject; and if I am not thought intrusive, I shall again resume the subject.—I am, Sir, your obedient servant,

ROBERT BAKER.

CORN LAWS.

HOUSE OF COMMONS, THURSDAY, MARCH 15.

[The importance of this debate, concentrating most of the arguments on both sides of the question, will be found interesting to our readers; we therefore have given it in full.—ED. F. M.]

Mr. VILLIERS rose to bring forward his motion, that the House resolve itself into a committee of the whole House, to consider the Act 9 Geo. IV., c. 60, relating to the importation of corn. He was fully sensible of his incompetency to do justice to so important and difficult a task, but the question was, not the merits of the speaker who introduced the subject, but the reasons on which was founded the strong desire of the whole town population of the country to see the law repealed. (*Hear, hear, hear.*) Thousands were daily withdrawing their confidence from the Legislature on account of the manner in which it appeared to treat all questions affecting the general interests of the community, more especially upon this question. Of all the wrongs inflicted on the people by the unreformed Parliament—of all the errors which sprang from the ignorance and injustice of that body—none stood so conspicuous as these cruel and unrighteous laws, which raised the price and limited the amount of the staple of human subsistence. He might be told that it was idle to moot the matter, seeing that there was no prospect of

success with a Legislature constituted as the present was. He was not blind to the existence of this fact, but it was not of sufficient weight to discourage him from the performance of what he deemed an indispensable duty. He was disposed to think that the time had arrived when there was nearly intelligence enough out of the House to make the serious discussion of the subject in the House a salutary and necessary step on the part of the Legislature. The day was gone by when Parliament could, by the mere expression of their power and prerogative, refuse to satisfy the general wishes of the people. (*Hear, hear.*) The conduct of the House on this subject hitherto had been such as to make the intelligent people of the country almost despair of any redress for this crying grievance at their hands—to make them look upon the House as an unreformed one in all that touched its own interests—nay, to induce upon them the opinion that the hands which passed the corn laws had been strengthened by the Reform Act, and finally to impress them with the belief that their only hope was to extract from the fears of the Legislature that they could not obtain from their justice. (*Hear, hear.*) If it were argued that this was an unseasonable moment for mooted the question, since no general excitement was manifested on the subject, he would only observe that he could not understand the morality or wisdom of those who would prohibit the consideration of a difficult and delicate subject until the arrival of events which would render them unable to consider it with the requisite care and caution. (*Hear, hear, hear.*) As to the want of excitement, he fully believed that if justice were not promptly conceded on this subject the day was not far distant when more excitement would attach to the subject than would be agreeable to those who now complained of the absence of excitement. But for his own part, when he saw so many thousands of persons in the country dependent on relief—when commissions were issued to inquire into the grievous distress prevalent throughout the country—and when such anxiety was manifested to promote the emigration of our labouring classes—he must say that these circumstances appeared to him to indicate a state of things far from healthy, or of a character to preclude the necessity of taking this subject into consideration. It seemed to him, indeed, a peculiarly favourable point of time on which to agitate the question when he reflected how many persons there were in Parliament and out of Parliament who stepped forth out of their class in society as the warm advocates of the poor, as the bitter opponents of the tyranny of workhouses and the severity of factories, none of which noblemen and gentlemen could consistently hesitate to stand forward as the supporters of a proposition which directly tended to the welfare of the poorer classes, to lower the price and increase the supply of the principal article of food. (*Hear, hear.*) He would now proceed, as briefly and precisely as possible, to state the grounds on which he considered the present corn laws as indefensible in principle and injurious in practice. The principle on which the corn laws had been founded, and on which they were maintained, was the protection of the landed interest. It was stated that, living in the artificial system which prevailed here, the British farmer would not be able to compete with the foreign corn-grower unless he had the protection of the Legislature. There was hardly any word in the English language so little understood as this same word “protection,” though there was no word which it was important for the people to have a clear and definite idea of. When the word implied a security afforded by the state to the whole or any particular portion of the people against injury or oppression, it involved a principle to which all must readily assent; but when it expressed legislative support of any particular class in a monopoly grievously unjust and injurious to the remainder of the nation, it was a term which merited the utmost reprobation, and which ought to be generally discountenanced. (*Hear, hear.*) There was no improvement which, in the progress of society, had been made in any detail of that progress which had not created an outcry for protection on the part of that class or those individuals whose private interests were temporarily prejudiced by the change which permanently benefited the community and society at large. (*Hear, hear, hear.*)

There was no improvement in machinery, for instance, which had not in the outset met with violent resistance from those whose occupations were superseded by that improvement, and who assailed the supporters of the innovation as either fools, totally ignorant of the subject, or knaves, desirous of injuring their neighbours. And this feeling on the part of such parties was perfectly natural, for it was quite clear that in every case where the labours of a class of the people were superseded by improvements suggested and adapted to the wants of the rest of the community, the greater portion of that class must for the time sustain a considerable injury, from the difficulty invariably experienced in passing from one employment to another, of which the case of the hand-loom weavers was a striking illustration. But the point for the Legislature fixedly to consider was, what were the interests of the majority of the nation. To these, when ascertained by impartial and dispassionate inquiry, the interests of particular classes must cede; but it would always be found that that which promoted the interests of the many would ultimately comprehend also the advantage of the few. If the house resolved itself into a committee to consider this subject, he should not be deterred from moving the total repeal of the duties on corn. He would ask, was there any direct tax imposed on the land? If there was, it fell differently on the land to what it did on any manufacturer. Some land might yield eight bushels an acre, and some thirty; consequently the tax imposed on the land fell in an undue proportion, and they should be careful in giving an indemnity to the land that they were not giving a bounty to some and an undue protection to others. But he would contend that there was no direct tax on the land; he would contend that not only did the agriculturists not contribute more, but that they were more exempted from taxation than any other classes of the community. The fact was, that there were no landowners in Europe who were so exempted from taxation as ours, and the operation of the corn laws was greatly to limit the resources of the revenue. He had often sought for some excuse for them; he should, indeed, be glad to find a tolerable pretext for their existence, because he could not now help considering them an insult as well as an injury to the country. Would hon. gentlemen show what branch of the revenue was more contributed to by the landowners than by the other classes? Was it the customs, the excise, or the assessed taxes? They were exempted from paying for their servants, their dogs, and their caris. Land passed by descent, therefore the landowners were exempt from the legacy and the probate duty. Their proportion of the whole revenue was 28 per cent., but he would take the calculation of one-fourth, and he would ask, did they pay that proportion to the general taxation? If they did let them prove it. He asserted the contrary; he was ready to prove to the contrary. They did not pay the same proportion even of the county-rates or highway-rates as the tradesman and householder. Within the last three years they had obtained relief to a most extraordinary extent. Half the county-rate was charged to the consolidated fund, the poor-rates had been diminished nearly one-half, and the value of land had been greatly increased by the tithe commutation act. When the landowners were indemnified he claimed some relief for those who suffered by the corn laws. The more intelligent of the landowners referred to the existence of the malt tax as a reason why the corn laws ought to be defended. They argued, “If you take off the malt tax, people will consume more barley.” He would say if they took off the duty on glass the consumption of that article would be increased. If the malt tax pressed on the agriculturists, did not the bread tax press on the other classes of the community? If the consequence of taking off the malt tax were that there would be an increase in the demand for barley, it followed that if they repealed the duty on corn the people would consume more wheat. Unfortunately the landowners had the monopoly of both wheat and barley; they had the monopoly both of the market and of the land. Some said that the agriculturists were entitled to protection

inasmuch as it was a part of our system, and that the advantage was extended to the manufacturers. That argument only went to this—"You take from the community, and let us also take from the community;" but what was the fact? The protection to the manufacturer was only 20 per cent., while that to the agriculturist was 100 or 80 per cent. The merchants of London, in a petition which had been presented from them to this house, repudiated the principle of protection. In that petition they stated it was against every restriction, against all duties protective against foreign competition, that the prayer of this petition was presented. They contended that the principle of protection had increased the cost of production, and thus rendered it impossible for them to compete with the foreign markets. He hoped he should not hear to-night that it was necessary to protect the corn laws as a political institution of the country. If so ridiculous an argument were advanced he would say, as had been said by *The Examiner*, let the principle be avowed as well as acted upon; if the country is to submit to a loss for the maintenance of the landowners, the amount of the loss ought to appear as a charge in the yearly estimates. The house ought to be called on for a vote for that purpose in the same way that it was required to support the army and navy. The honorable gentleman then went into a calculation, to show that the loss to the community by the corn laws was not less than 15,600,000*l.* Lord Fitzwilliam, in a pamphlet he had published on the subject, declared that the loss attributable to the corn laws in the victualling department alone was from 600,000*l.* to 700,000*l.* a year. It had always been said to be their duty to reduce the salaries of the public officers to the lowest possible estimate, with a view to the economy of the public resources; but what could the country think of such professions when they knew that for the advantage of a particular interest, which certainly possessed great power in that house, no less than 15,000,000*l.* was annually sacrificed? And this system was maintained while our soldiers and sailors, who endured the greatest hardships, and risked their lives for our protection, had their pay and pensions reduced to the smallest possible amount. His charge against the corn laws was, that they limited the foreign trade of this country; and his charge against the legislature was, that they were pursuing, for the last twenty-five years, a course which was injurious to the manufacturers of England. It was to be remembered that this country had expended 600,000,000*l.* in the last war. How were they enabled to meet such an enormous expenditure? By means of their manufactures. (*Hear, hear.*) And yet, at the conclusion of that very war, the minister who represented them at the congress of sovereigns neglected the interests of their manufacturers, and, at the same time, entered into engagements on behalf of England in which engagements the English people had no interest. (*Hear, hear.*) His complaint was, that they still persevered in the bad policy which at that period had been pursued—they were still for creating a home trade, instead of looking to and encouraging the foreign trade. Thus it was that they gave to foreigners in making themselves manufacturers, and instead of customers, changing them into rivals. (*Hear, hear.*) Let them look to Russia and to the United States, who had long since told them that if their production of grain were refused, they must become manufacturers. Mr. Huskisson had predicted all the evil consequences which had since followed. He appealed to the honourable members for Nottingham and Derbyshire, if the distressed state of their manufactures was not caused by their being unable to compete in cheapness with the foreign manufacturers? In France, in Switzerland, and in the United States, the capital had been employed in the production of cotton goods, which was a most important branch of the trade of this country, it had been proved too, that many who had been employed in the hardware manufacture in Sheffield, were now engaged in Russia and in other parts of the continent. What was the value of their foreign trade? That was the question. (*Hear, hear, hear!*) He hoped the manufacturers in that house would speak out on this occasion. In private, the manufacturers had

no hesitation in saying that the corn-law was destroying their trade. He hoped then, they would declare openly what was their candid opinion upon this question; for they had now come to this point, that they must make up their minds whether they would abandon their foreign trade or their corn-law. (*Hear, hear.*) He wanted to know what were the results, or what they had to console them for the evils that were endured? Was it the prosperous condition of "the landed interest?" (*Hear, hear.*) In twenty-four years, they now had had experience of the policy of their scheme, and what were the results? Were the occupiers and the tenants happy, contented, and prosperous? Why, their tables groaned with petitions complaining of their distress—their reports, their enquiries, and their debates were filled with accounts of the distress of those classes. In the agricultural reports there was evidence of the evils of the corn laws themselves. (*Hear, hear.*) Let them look to the report five years after the law passed; they would find in 1821 there was a report on the excessive distress prevailing amongst the agricultural classes. It was more than implied, too, that the law itself had aggravated these evils—that it induced farmers to make engagements which they were not able to realise. If this complaint applied to the law of 1815, he asked did it not apply with equal force to the law of 1828? In 1828 wheat was 75*s.* the quarter. In 1831 the house was occupied for five nights with a debate on agricultural distress, and in 1833 it was engaged on the same subject. (*Hear.*) There was nothing upon which the wealth and comfort of the farmers depended more than upon the steadiness of prices. (*Hear.*) Now, he defied any human being to devise a scheme which could be a more efficient course for unsteadiness of price, than the corn law. That law held out the hope of affording to the farmer a remunerating price; that he would be remunerated for his outlay; and thus he was induced to promise more than he could fulfil. The present corn law would prevent the price from sinking, but did it secure the farmer against the seasons? (*Laughter.*) If it did anything good, it ought to provide him with the means to pay his rent. Now, the corn law did not secure to the farmer the means for paying the landlord the rent he had contracted to pay. It did not secure the monopoly it purported to protect. The Dutch destroyed a portion of their spices for the purpose of keeping up the monopoly. Now he did not say that was honest or just, neither did he declare the corn law to be honest or just. (*Hear.*) He should like to know if the farmers had an interest distinct from every other class. If the landlord raised the price of the produce, would he not ask the tenant a greater price for his land? (*Hear.*) The farmer then had no interest in the high price. The corn law raised the price of produce, and limited the field for the employment of capital. Was, he asked, the labourer interested in the high price of corn? In 1830 were the labourers prosperous? In nine cases out of ten in that year were they not paupers? Was not labour declared to be redundant? Were not some of the labourers charged with offences against the law, by the breaking of machinery, which had thrown them out of employment? The labourer then, in 1830 could not be an advocate for the corn law, when he was in such a miserable condition. (*Hear, hear, hear.*) Many persons had attempted to show that the landlords would not lose by a repeal of the corn law. He took up no such ground. He advocated a repeal of the corn law as an enormous wrong which was indicted upon the community. (*Hear, hear.*) He would not labour to show that if the corn law were repealed that it would leave the landlords much as they were at present. He, however, asked landlords themselves if they hoped they could maintain a position which was found to be injurious to the general interests? They owed their position to a different state of society; and they could not but feel that with the increase of intelligence their influence must be diminished. Even they themselves were obliged to contribute to the education of the people. It became them, then, to consider whether their position could be maintained by any other than by moral influence, or whether it was not more likely that

they would be controlled by public opinion than be able to guide it. If the landlords persevered in maintaining the present law, they would provoke a struggle either to have it repealed, or to obtain the means by which it must be repealed. It became, in his opinion, the duty of every public man to use all his efforts for the purpose of procuring substantial advantages for the people, and not at least to allow the hard working portion of the community to be deprived of the fruits and rewards of their own industry. With this object then he now moved, "That this house do resolve itself into a committee of the whole house to consider the act of the 9th Geo. IV., c. 60, relating to the importation of corn." He could not expect that the house would reject such a motion. (*Laughter from members on the opposition benches.*) It was his intention subsequently to move a repeal of the corn law; but at present his object was to have the motion generally supported—his desire was that the house now would recognise the defective state of the law. (*Hear.*)

Sir W. MOLESWORTH said, that though his hon. friend, whose motion he now rose to second, had nearly exhausted the subject which he had so ably brought under the consideration of the house, yet he could not refrain from offering some few observations as to the effects of a restricted trade in corn. In his opinion the tendency of the corn law was to create discontent, uneasiness, and an infinitude of moral evils amongst the great bulk of the community; and it could, he thought easily be proved, that the statute which his hon. friend proposed to repeal materially impeded the advance of this country in a career of wealth, power, and social improvement which might, and would be, without a parallel in the universe, were they permitted to import from foreign lands, the common food of the people. For it must be acknowledged, that a nation was rich or poor, powerful or weak, ranked high or low in the scale of civilization, according to the facility or difficulty with which it obtained food for its population; according as a less or greater proportion of hands was employed in raising subsistence for the whole society, or in other words, according as there was a greater or less proportion of disposable population—disposable for other purposes than those of merely creating the first necessities of life. The wealth, the power, and the civilization of this country all depended upon and accounted for by its large disposable population. It was evident that in proportion as their disposable population compared with their whole population, increased this country would advance in wealth, power, and civilization. It was equally evident that according as the number of hands employed in raising food, compared to the whole population, increased, the social advancement of this country would be checked or would retrograde. Everything therefore, which tended to increase the disposable population was a good; everything which tended to increase the proportion of hands employed in obtaining food for the whole community or in other words, everything which compelled the expenditure of a greater quantity of human labour in this country, in the production of food, was an unmitigated evil. These positions seemed to him clearly to point out the injurious effects of a law which restricted the importation of corn. That law obliged them to produce at home by far the greater portion of the food upon which the subsistence of the population mainly depended, and for the growth of which their climate and soil were but ill adapted. A labourer in England could not produce anything like as much food by tilling the soil as he could obtain in exchange for the products of his manufacturing industry. Thus the immediate effect of the corn law was to augment the proportion of labourers employed in growing subsistence for the whole community, and to decrease to the same amount the disposable population; the community was, therefore, less rich, powerful, and civilized than it might be with an unrestricted trade in corn. There were some who objected to unrestricted trade in corn, on the ground that it would render this country dependent for the subsistence of its population on other and distant lands,

which dependence, they held, would be a cause of fearful insecurity and weakness. To this he would reply that, at the present moment, this country was dependent for a portion of its food upon foreign countries; that it could not abstain altogether from the importation of food, without frequently suffering great distress, in many cases actual famine; that, in order to be secure of that supply of food which this country even now required, they must be rich and powerful—rich, in order to command a supply of subsistence in the markets of the countries possessing superior facilities for raising food; powerful, in order to defend their trade in food from the aggressions of other nations. In the preceding remarks he had only traced the effect of the corn law upon the aggregate wealth and power of the community. He should, however, at the present moment confine himself strictly to the effects of the corn law upon the comfort and well-being of the community. To what extent, he would ask, did that law decrease or increase the enjoyments of those who lived upon rent, upon the profits of stock, and upon the wages of labour? When wages were high the labourers were contented; when profits were high the capitalists were at ease; and when the value of land was high the landlords were prosperous. Now, were these three interests consistent or inconsistent one with another? He felt convinced that they were consistent; and that it was only in consequence of the corn law that they appeared opposed. Upon what, he asked, did high wages and high profits depend? Upon the means of productively employing labour and capital. The amount of wages depended upon the proportion between the number of labourers and the means of profitably employing them. If the number of labourers were large, and the means of profitably employing them small, severe competition took place amongst labourers, the wages of labour were beaten down, and each labourer consented to give a large amount of labour to the possessors of food in return for subsistence. He said, prevent this severe competition by extending the field for the profitable employment of labour, and the wages of labour would be high, and the labourer at ease and contented. In a somewhat similar manner, if the amount of capital were large compared with the means of profitably employing it, severe competition took place amongst capitalists, capital was invested in every trade which held out a chance of profit; over-trading took place, and the possessors of produce endeavoured to obtain a market by underselling one another. How, then, were they to put an end to competition and produce a fair profit? This result might be brought about, for instance, by some agricultural improvement, which would increase the productive power of land already under tillage, and render productive a large quantity of land which had previously been sterile. An event of this kind had happened within the last few years; great improvements had taken place in agriculture in Ireland. These improvements, together with abundant harvests, had produced to a certain extent nearly the same effect in extending the field of production as if the corn law had been repealed; hurtful competition had, in some degree, abated; wages and profits had risen, and the bulk of the people had been more contented and peaceable; but this effect was only of a temporary kind; population and capital would again grow up in the field of employment; hurtful competition would again take place; wages and profits would fall; and the bulk of the community would be discontented and uneasy, unless the field of employment again increased in proportion to the addition to capital and population. It could hardly be hoped that the field of production would continue to be constantly extended to a sufficient degree by successive improvements in agriculture. If not, the evils to which he had referred must take place, unless other means were found of profitably employing the productive powers of the nation. The powers of production of this country by means of manufactures had no other limit than the number and extent of the markets in which it could dispose of its home produce; but the markets were now closed, the foreign channels for the supply of food were cut off, the field for the productive employment of capital and labour was limited by the corn law. Repeal, he said,

the corn law, new markets would be created ; with their perpetually increasing and inexhaustible means of purchase, their importations of food from other countries might go on increasing, so that capital and labour might perpetually increase, and find a sufficiently extended field of production, to prevent severe competition, and to insure high wages and profits. At the present moment there was a superabundant capital and superabundant population compared to land. A repeal of the corn law would be tantamount to an increase of the land of this country ; the capital, which on account of low profits, either remained dormant, or flew off to other countries, and was invested there in the wildest and most unproductive speculations, employing foreign hands and leaving at home a domestic excess of labour, would be invested in this country, and find ample employment for their labourers in producing articles of exchange with other countries for food. But not only did the capitalists and labourers suffer from an excess of capital and people ; but all other classes of the community were sufferers by the same cause, except the landlords, who, he believed, were injured in another way by the corn law. Not only those who lived upon the interest of capital felt the hurtful effects of the competition produced by the corn law, not only in the anxious search after, and struggle for, employment was every trade overstocked, but every profession was overfilled. The power, the wealth, and happiness of this country were impaired by the corn law, which was made for the supposed protection of the landlords. He said supposed advantage of the landlords, for he believed that, with the increase of wealth and population which would be the consequence of an unrestricted trade in corn, land would soon become more valuable than it is at present, and consequently would pay higher rent : for rent was the value given in return for the use of land ; land was valuable in proportion to the demand for it, and the competition for its use depended upon its vicinity to markets and manure, to its fertility, &c. These natural advantages the land would not lose by the repeal of the corn law. With an unrestricted trade in corn, though the competition for the use of land for growing corn would be diminished, yet the competition for the use of land for other purposes would be excessively augmented, and would continue to augment in proportion to the increase of the wealth and numbers of the community ; with an unrestricted trade in corn, and consequently with an increasing field of employment for labour and capital, population would augment at a most rapid rate ; the size and number of their towns would, in a short time, be doubled. Few, he thought, could doubt that in those thriving marts of industry there would soon be a greater demand for the uses and products of British land exclusive of corn, than there was at present inclusive of corn. Not only therefore did the landlords injure all other classes of the community, but they injured themselves likewise, through their ignorance of the effects of the corn law ; yet it was to this very class, returned to this house by the servile votes of their dependent tenants, who, by their legislation, had worked the evils he had mentioned—it was to this very landed interest that the noble lord, the liberal and enlightened statesman who framed the Reform Bill, desired to give preponderance by that measure, and in his place in that house had ventured to assert that upon the preponderance of that interest the stability of the institutions of this country depended. He denied altogether this position, and he pointed to the corn law in refutation of the noble lord's doctrine. He contended that the stability of this country depended upon the wealth, power, and happiness of the community, and that its stability was therefore impaired by the conduct of the landed interest with regard to the corn laws, and it was with this feeling and this conviction that he most cordially supported and seconded the motion of his hon. friend.

The question having been put,

The Marquess of CHANDOS said he rose to give his decided negative to the proposition of the hon. member for Wolverhampton. (*Cheers.*) He had listened with great attention to the speech of that hon. member, and he must say that the hon. member had redeemed his pledge to his constituents to do all he could for the re-

peal of the corn laws. The hon. member towards the close of his speech, had attempted to enlist the feelings of the manufacturing classes in his favour, by describing the agricultural interest as opposed to them. He regretted this, inasmuch as he defied the hon. member to show an instance in which the class with which he (the Marquess of Chandos) was connected had ever forwarded any object in opposition to the manufacturing interest. (*Cheers.*) He saw clearly that nothing would satisfy the manufacturing interest but the total and entire repeal of the corn laws. (*Cheers.*) Why did some hon. members seek to deprive the agricultural interest of all protection ? Was not the manufacturing interest protected, and did they not require protection ? (*Cheers.*) Not many days since, an hon. member came down to that house, and asked a question with regard to the linen manufactures of Ireland, inasmuch as he was alarmed at the interference of foreigners in that trade. (*Hear, hear.*) All the agriculturists required was protection. (*Cheers.*) He again defied the hon. member for Wolverhampton to produce an instance on record where the agriculturists had ever put themselves forward to injure the manufacturing classes. The hon. member for Wolverhampton, in the course of his speech had stated that nothing could be more satisfactory to the farmer than steady prices. He went along with the hon. member entirely in this opinion, but the course which the hon. member wished them to take, namely, the repeal of the corn laws, would not produce steady prices. (*Cheers.*) If the corn laws were repealed, he would venture to assert that no farmer in England could exist, and no wages would follow to the manufacturing labourer. It was true that the artisan had been led to hope that cheap bread would be the result of the repeal of the corn laws ; but he would tell the artisan that if cheap bread was to be the order of the day, he must also recollect that, if the corn laws were repealed, he (the artisan) would not have the high wages he now enjoyed, and which he ought to enjoy. (*Cheers.*) The House must recollect, also, that during the present year, or year and a-half, there had been a considerable importation of foreign corn. It appeared, from the papers that had been laid on the table of the House, that from the 5th of January, 1836, to the 5th of July, 1837, no less than 104,409 quarters of foreign corn had been brought into this country. If the corn-laws were repealed, and if they placed on the same footing as foreigners the farmers of this country, heavily taxed and burdened as they were, what would be the consequence ? It appeared from documents before the House that corn was grown in Germany and sold at Hamburg for 31s. the quarter, from whence it was imported into Hull at an expence of 2s. per quarter. How then, he asked, could the English farmer, situated as he was, compete with the foreigner ? If they were beginning the world again, if they could reduce the burdens of the country and get rid of the present extreme weight of taxation, the farmer would not require the protection he now required ; but situated as the farmers were, and as the country was at that moment, if they took from the farmer the protection he now had, he was sure that it would bring down certain destruction on the best interests of the country. (*Cheers.*) He was confident that anything he could say would not impart any interest to a subject which had been repeatedly before the House ; and, indeed, from the state of the House no one would believe that they were discussing a subject of such vital interest to the community at large. There was, indeed, one member of the government present, taking his evening siesta, wearied with the fatigues of office. (*A laugh.*) But in spite of the little interest which the question appeared to excite, he was sure that this appeal to the country gentlemen in the House would be sufficient to induce them, by a decided vote, to put an end to all the hopes of hon. gentlemen of a repeal of the corn-laws. (*Cheers.*) He considered that he was only performing an act of duty towards the agriculturists in opposing this motion. He opposed it upon the grounds of hostility to that interest which the hon. member for Wolverhampton supported and defended, and very properly so, in that House. He had no wish to produce towards the manufacturing in-

terest the slightest injury, but he must also be allowed to say that he should not feel that he was doing his duty to those who had sent him to that House if he did not protest against this motion in the strongest terms he could possibly use. (*Cheers.*) The hon. member for Wolverhampton had stated fairly and honestly that he wanted a committee to inquire into the operation of the corn-laws, for the purpose of effecting their total and entire repeal. There could therefore be no disguise, or mistake, in the votes of that night. (*Hear, hear.*) Those who voted for going into committee must be prepared to go with the hon. member for Wolverhampton to the full length of the repeal of the corn-laws. (*Cries of "No, no," and "Yes."*) If hon. members thought otherwise, they must be mistaken with their eyes open, for the hon. member for Wolverhampton told them that he wanted the House to go into committee in order that he might move the total and entire repeal of the corn-laws. (*Hear, hear.*) Was it possible for any gentleman connected with the landed interest to take the first step without being prepared to go the full length of the hon. member for Wolverhampton? He cautioned hon. members not to be led away; and he could say for himself, that he never felt so much pleasure as he did at that moment in honestly getting up and opposing this motion in every possible way. (*Cheers.*) The hon. member for Leeds (Sir W. Molesworth) had made some severe remarks on the landed interest in that House and upon country gentlemen, and he had stated that those gentlemen who opposed this motion were returned by the servile votes of their tenants. He must beg leave to say that he (the Marquess of Chandos) did not deserve this censure. (*Cheers.*) He held his seat in that House as honourably and nobly returned as the hon. baronet (Sir W. Molesworth). He had stood more than one contest, and he could say that he had never been returned by the servile vote of any individual whatever. (*Cheers.*) He was confident that the hon. baronet, upon reflection, would not attempt to cast a stigma upon country gentlemen which the hon. baronet knew perfectly well they did not merit. (*Cheers.*) He would not trespass longer upon the indulgence of the House, more than to express his earnest hope that the division of that night would show to the country that they were not prepared to take the step which the hon. member for Wolverhampton called upon them to take. It had been stated that the farmers sought to keep up a monopoly. It did not appear that they did so even if they desired it, which he utterly denied. The scale of prices framed by that House was of such a nature that while, on the one hand, it was a security to a certain extent to the farmer, it prevented, on the other hand, an extreme rise in prices, and it prevented that dearness of bread which the hon. member for Wolverhampton was so anxious to provide against. For many years the prices had been such as to give no dissatisfaction to the community at large. The operations of the farmer were open to the eyes of the world. He had nothing to rest upon but his own exertions, and the support and protection which Parliament afforded to him. All the farmer asked was to be protected in the same way in which the manufacturer was protected. They asked for single-handed justice, and he was sure the House would not refuse their prayer. (*Cheers.*)

Mr. C. BERKELEY said he could not agree with the hon. member for Wolverhampton. He thought, if the corn-laws were repealed, the agriculturists would lose their chief stay and support. (*Cheers.*) He did not think it possible to separate the agricultural interest from the trading interest. He was well aware that at the last election it was attempted to raise a cry that the liberal candidates were inclined to throw over the agricultural interest for the sake of the manufacturing interest. This cry was raised for party purposes, as it was impossible for any sensible man to entertain for a moment the notion that these interests were not completely inseparable. He felt bound to vote against the motion.

Sir H. PARNELL, who was very indistinctly heard in the gallery, said that the noble lord the member for Buckinghamshire had just stated that the agriculturists required nothing more than a fair extension of that protection which was afforded by the laws of the country

to the manufacturing interests. But he (Sir H. Parnell) begged to assure the noble lord of the fact that the manufacturers of the kingdom had themselves long been aware of the impolicy of the restrictive system which had so long been enforced; and it was not long since he had had the honour of presenting to her Majesty's government a memorial from his constituents, who, although manufacturers, saw the impolicy of restrictive laws, and particularly as it applied to their own peculiar branch of trade. (*Hear, hear.*) The noble lord's speech to-night, like his speech on many similar occasions, treated only of one party, namely, the farmer, as interested in this question. "How (asked the noble lord) is the farmer to exist if he is not protected in the sale of his produce?" Now, all this in his (Sir H. Parnell's) opinion was a practical delusion, which kept out of sight the true character and bearing of the question. He (Sir H. Parnell) begged most distinctly to declare his opinion that there was no one interest in the country which derived any advantage from the corn-laws but the landowners. (*No, no, from the opposition; cheers from the ministerial side.*) Under the non-leasing system, which now almost universally prevailed throughout the country, the farmer could derive a very small and temporary interest from an increasing price of corn. As long as rent was apportioned to the average price of corn, as at present, the farmer could not have any interest in the price of corn, and the landowner was the only person who profited by a rise in price. On the other hand, whilst the farmer gained nothing by the corn-laws, he lost much in the increased prices of all the various commodities which he had to purchase, and which necessarily kept pace with that of corn. If this point were properly considered the farmer would see that his true interest laid in having corn cheap instead of dear. He repeated again that out of the vast community of this kingdom, amounting to 24,000,000 of souls, there were but a few hundred thousands who obtained any advantage from the tax raised by means of these corn laws upon the prices of all articles of consumption. With respect to the amount of this tax, taking an average increase in the price of corn of only 5s. per quarter, this, at a computation of fifty millions of quarters of different kinds of grain, which were consumed annually in the kingdom, gave a tax of no less than 12,500,000*l.* in amount. Yet it was not to be supposed that this twelve millions and-a-half went into the pockets of the landowners—even that was not the case, the simple fact being that the greater part of this sum was actually lost in the greater expenses necessarily incurred in procuring corn of home produce, instead of resorting to foreign markets for a supply. A very small sum, not more than one-third or one-fourth of the whole tax eventually went into the pockets of the landlords. Looking, therefore, at this question in what he conceived to be its true light—looking at the variety of interests which were involved in the repeal of these laws, whilst the landowner, and the landowner only, derived any benefit from them, he should most cordially support the motion now before the House.

The Earl of DARLINGTON admitted that the hon. member who introduced this motion had treated the subject generally with great fairness and coolness of manner, although he certainly had drawn some very extraordinary inferences and conclusions in the course of his speech. With respect to the hon. baronet who had just sat down, he must say that he was never more astonished at any speech in that House than at that which the hon. baronet had just uttered, and he was at a loss to account for it in any other way than simply this, that the hon. baronet happened to be member for Dundee. (*Opposition cheers.*) He recollected that in the year 1815, when the corn laws were introduced, the hon. baronet was one of the first advocates—advocating not merely in the modified form of restriction which at present existed, but a total prohibition of foreign corn until that of home growth was at eighty shillings a quarter. (*Opposition cheers.*) With respect to the agriculturists, all they asked for was the same mode of protection as was extended to any other branch

of produce. They sought no exclusive privileges; they did not wish for scarcity as a means of high prices; on the contrary, they always rejoiced in abundant crops; and all they required was such a degree of protection as should insure the grower a fair remuneration for his capital and labour. The hon. member for Wolverhampton seemed to hold the opinion that duties of this kind were only imposed for the purpose of increasing the revenue. He certainly was surprised at this opinion, for he always understood that, though the revenue was likewise looked to in matters of this kind, the protection of trade and manufactures was the main object held in view. He was equally surprised to hear the hon. member declare that the manufacturers of the kingdom were themselves anxious for the removal of this protection. He (Lord Darlington) certainly never recollected hearing the glove-makers, shoe-makers, and other manufacturers of Coventry and other neighbouring places petitioning for the removal of the duties which protected them. (*Hear, hear.*) The agriculturist wanted no more protection than that which the manufacturer enjoyed.

Sir H. PARNELL rose to explain, but amid the confusion which prevailed in the House he was scarcely audible. He was understood to say that the period at which he had supported the corn-laws was in the year previous to the termination of the war, and that he did so because he saw the necessity under the circumstances of ensuring a continued production of corn in the country, his object was not at all to maintain corn at a high price.

Mr. CLAY, after complimenting the honourable member for Wolverhampton for the able manner in which he had advocated this question, and declaring his entire concurrence in his honourable friend's views, expressed his regret that the advocates for the repeal of the corn-laws had received little or no support from the public without the walls of this House. (*Opposition cheers.*) He deplored the apathy which existed in the public mind on this important subject, but the truth was so, and he was bound to avow it. He believed that a repeal of the corn-laws, or an essential modification of them, would never be obtained without the exercise of a pressure from without. He did not mean by this the exercise of mere brute force, but that widely-expressed public opinion which the legislature of this country, not even before the passing the Reform Bill, and much less since, could not refuse to pay attention to. Yet what was the fact? That whilst 196,000 persons had petitioned this house for a repeal of the Poor-law Amendment Act—an act which all parties approved of in principle, and which was only objected to in certain matters of detail—only 24,000 had petitioned for the repeal of the corn-laws. (*Hear, hear.*) Instead of applying themselves to this vital question, the people were running after a variety of chimerical schemes, such as universal suffrage, and a variety of measures for the regulation of trade, but only twenty thousand people came forward to demand the repeal of a monopoly which depressed all the energies of the people. The time would, however, he hoped, arrive when the people of England would speak upon the subject in a voice not to be misunderstood, and when at one blow these iniquitous laws would be swept away. The combined result of those laws and of the Prussian league was, that we were without a European market for our manufactures. The noble lords talked of the protection afforded to manufactures; would they point out one single article of manufacture which was protected as corn was, not only in amount, but in kind? Was there any manufactured article the duty on which, like the duty on corn, varied in proportion to the supply in the country? It has been his intention to move an amendment to the motion, the object of which amendment would have been to substitute a fixed duty in lieu of a duty varying according to the average price of corn; but, upon consideration, it appeared to him to be better not to divide the attention of the House by such a proposition. If, however, the motion should be carried, he would bring his amendment under the consideration of the committee.

Mr. D'ISRAELI opposed the motion. He contended that neither the American tariff nor the Prussian tariff had been occasioned by our corn-laws. Under any circumstances it was not to be supposed that the various states of the continent would allow this country to be the great workshop of Europe. But was there any fear of any overwhelming foreign competition with English industry at the present period? In some instances there might be a successful competition; but those instances were only accidental and temporary. He had some time ago been told of the superiority of Catalonian cloths, and he had really expected that that alleged superiority would have formed one of the grounds on which the honourable member for Wolverhampton would have founded his motion. He had also heard much of the competition of Belgian hardware, but, on pressing his informant, he was given to understand that the Belgians "were doing a great deal in small nails." (*A laugh.*) It was not the greater cheapness of French, or German, or Swiss manufactures that this country had to fear. The real cause of apprehension was the greater taste of foreign patterns, and the greater brilliance and durability of foreign colours. He by no means believed that the effect in this country of the price of corn or wages was so injurious as had been asserted. The great outcry against the agricultural interest had been produced by two courses pursued by its opponents: the one, holding up the fallacious but specious pretence that to abolish the corn-laws would be to produce cheap bread; the other exciting the moneyed party, the party opposed to any political system based upon agricultural preponderance. (*Hear, hear.*)

Mr. CAXLEY observed that ten, twelve, or fifteen years ago there was a loud popular cry for the repeal of the corn laws. Why was there no such cry at the present moment? Because the people were no longer deluded by the cry of cheap bread. When the labourer was asked whether he liked high prices or low, he always answered that he was better off with high prices; because a reduction in the price of corn was always followed by a reduction of wages. The effect of a repeal of the corn laws would be to throw a great deal of land out of cultivation, the effect of which would be to throw a great number of people out of employment. The honorable member proceeded to quote the report of the committee on the state of the hand-loom weavers, in order to show that what the working manufacturers complained of was the protection afforded to capitalists rather than the protection afforded to corn. It had been said that the corn laws had diminished the foreign trade of this country. Now, the fact was that the foreign trade of this country not only had not diminished, but had doubled within the last few years. The hon. gentleman in support of his statement here referred to the returns of exports to Russia, America, and other countries. It would seem from the documents to which he had referred that in the years in which the importation of foreign corn had been greatest the exportation of manufactured goods had been least. The present corn law he believed, in fact, to be the very best that could be invented, both for the protection of the agriculturist and the benefit of the public. It was a law which five-sixths of the country were interested in maintaining—a law, therefore, that ought to be upheld by every consideration of state policy. If the whole country were polled upon the question of the maintenance of the corn laws or the adoption of free trade, he believed that nine out of ten of the whole population would declare in favor of the corn laws.

Mr. MARK PHILIPS rose amidst loud cries of "question," and "divide." He was decidedly opposed to the existing system of corn laws. Within his own experience the effect of them had been to drive much of the manufacturing capital of the kingdom into foreign countries, where no tax was imposed upon this first and greatest necessary of life. He viewed with great jealousy the Prussian commercial league which had been so frequently referred to in the course of the debate. Whatever the original object of that league might have been, it was certain that it had now assumed

a form and a consistency which could be regarded only as most dangerous to the commercial and manufacturing interests of this country. In the manufacturing districts there was but one feeling upon the subject of the corn laws, and that feeling was well and forcibly expressed in a petition which he had some time since the honor to present from the Chamber of Commerce and Manufactures at Manchester. (The hon. gentleman quoted a passage from the petition, but the interruptions of the House rendered it inaudible.) He was satisfied that the existing system of corn laws could not be of long continuance; therefore, speaking in the character of a landowner, as well as in that of a man intimately connected with the manufacturing interests of the country, he begged to recommend the subject to the deepest and most careful consideration of all parties in the House.

Mr. GALLY KNIGHT rose amid cries of "divide!" and "withdraw!" and observed that the hon. member for Wolverhampton had appealed to him and asked him how he could vote against the present motion, recollecting as he must the distress which existed in the town of Nottingham. He (Mr. G. Knight) did not deny that such distress existed, but did positively deny that that distress arose from the high price of corn. In the first place, the price of corn was not high; and in the next place, the distress at Nottingham arose from over-production, from the frequent improvement of machinery, and from the state of the monetary system in America. As a proof that all the manufacturers of the country were not in favor of the abolition of the corn laws, he could refer to a pamphlet which had recently been published by a manufacturer of Nottingham, who was as much opposed to a repeal of those laws as any member in the House. It was not his (Mr. G. Knight's) wish to see one class of the community attempted to be raised at the expense of another; because he was well convinced that the interests of all classes in the country were identical. But he thought that the growers of corn were not fairly dealt by on the part of those who raised such a clamour against the corn laws. (*Question, question.*)

Sir R. FERGUSON said that he knew not who was the author of the pamphlet which the hon. member had referred to, nor did he care; but this he knew, that he had lately had the honor of presenting a petition unanimously signed by the corporation of Nottingham for the total repeal of the corn laws; and he had also presented a petition signed by 8,000 persons to a similar effect. This country professed to act upon a free-trade system, but how could such a system be maintained unless corn, which was a foreign production, were put upon the same footing as all other articles of commerce?

Mr. DUNLOP thought that some of the arguments which had been introduced by hon. gentlemen in support of a restrictive system were of rather an extraordinary nature. The hon. member for Maidstone had built a large portion of his speech upon the restrictive duties of the American tariff. That was rather an unfortunate selection, considering that that very tariff had occasioned almost a feeling of hostility to arise between several of the states in North America; and that at this moment there was every reason to expect a total repeal of those duties. The Prussian commercial league had also been urged as a justification of the restrictive system; but that commercial league was a system of free trade comparatively speaking; and he had no doubt that if this country were to join in the Prussian league, and consent to receive their goods free of duty, Prussia, in return, would receive English goods free of import. (*Cries of "Divide," and "Question."*)

Sir ROBERT BATESON spoke amidst very loud cries of "question," and "divide." He considered it to be a subject in which the people of Ireland were deeply interested, and he was surprised that not a single Irish member had yet spoken during the debate. (*Oh, oh.*) The hon. baronet addressed the House for some little time longer, but the impatience of the members prevented a single syllable uttered by him being audible in the gallery.

Mr. FIELDEN next addressed the House, but the noise was so incessant that he was equally inaudible with the preceding speaker.

Mr. E. ROCHE (Cork county) was induced to rise in consequence of the charge which had been made against the Irish members by the hon. baronet opposite (Sir R. Bateson). He should vote for a repeal of the corn laws, because he felt that it would be impossible for the Irish nation to start upon equal terms with the English as a manufacturing country until those laws were repealed. A repeal of the corn laws would open very extensive foreign markets for British manufactures; but those markets were not at present available, in consequence of the rate of labour being kept up by the restrictive system; but once let them be abolished, and labour would immediately become cheap in England, and still cheaper in Ireland. (*Renewed cries of "divide."*)

Mr. VILLIERS said that he had very little to answer, for not a single argument had been urged against the grounds which he had advanced in support of his proposition throughout the debate. There had, however, been one remark made to which he felt it necessary to advert. It had been said that there had not been any petitions of consequence presented to the House upon the subject of the corn laws, and that, indeed, a general apathy prevailed throughout the country with respect to this question. Now, he had anticipated that objection, and had stated in his opening speech that he had communications with persons in various parts of the country on this very subject, and it was the general opinion that it would be perfectly idle for them to petition the House of Commons, constituted as it now was, for a repeal of the corn laws. The object of his motion was not a repeal of the corn laws, but that the House should resolve itself into a committee to inquire into the propriety of their appeal. His opinion was decidedly in favor of a repeal of the laws, and he had heard nothing said which induced him to alter his opinion. (*Hear, hear.*)

The House then divided, when the numbers were--

For the motion	95
Against it	300
Majority.....	—205

CHARACTER AND OBJECTS OF THE CENTRAL AGRICULTURAL SOCIETY,—AS DESCRIBED BY THE *Morning Herald*.

Whilst the House of Commons is filled with eager and clamorous advocates of certain class-interests, scarcely a word is ever uttered in that assembly, on behalf of, perhaps, the most valuable class of British citizens—the farmers of England! The land owners in parliament discharge their duty, most inefficiently, towards the men, in whose prosperity they ought to feel the deepest interest. Whether this neglect of duty springs from idleness, or selfishness, or conscious incapacity to cope with the advocates of interests, hostile to those of the British farmer, we are unable to resolve;—but of the fact, no one can entertain a doubt. The class of landlords, in point of fact, seem to care for the fate of the farmer, only in so far as his fitness to pay his rent is concerned; but seem to care not one straw whether that rent form (as it ought to do) only a portion of the farmer's legitimate profits—or whether it be simply (as it unfortunately too often is) a deduction from the amount of the farmer's capital.

Yet the farmers of England are a race of men well worth preserving. They constitute now nearly the only depositaries of that healthy, manly feeling, which was once the general characteristic of Englishmen. The aristocracy of the present day has not, unfortunately, improved on the virtues of the aristocracy, in times when the highest classes were looked upon as the natural guardians of the humblest;—whilst on the other hand,

factory systems, and new Poor Law Acts, and unlimited competition with hordes of Irish labourers, willing to exchange their labour for a smaller remuneration than the necessities of civilization demand, have debased and brutalised to a frightful extent, the poorer classes of the community! The middle classes in towns are now tainted to an extent unknown to their forefathers with the vice of avarice in its worst form—commercial gambling! The march of moral deterioration, in short, is not quite so rapid as the “march of knowledge,” has been, at all events, quite as certain! If there be a class amongst us, yet uncorrupted, that class is the class of farmers.

Foremost in point of intelligence, amongst the farmers of England, stand the farmers of Cambridgeshire. A few years ago, they formed themselves into an association; and, during the whole period of that association's existence, its members have shown themselves, on all fitting occasions, well qualified to direct the whole body of English farmers, on the subject of those measures which the true interests of the British agriculturist ought to impel him to adopt. To the labours of the Cambridgeshire Farmers' Association, we owe the most valuable report which has ever appeared, on the subject of the causes, which have tended in so peculiar manner, of late years, to depress the condition of the English agricultural classes! Of that production, Mr. SPOONER, the chairman of the Central Association stated publicly, “That every agriculturist—that every person, in short, who wished to see a masterly exposition of the internal relations of the country, ought to read, mark, learn, and inwardly digest the report of the Cambridgeshire farmers!”

The Cambridgeshire farmers seceded lately from the Central Agricultural Society—for this very sufficient reason, that the central society, composed in a great measure of landlords who care only about their rents, seemed to have no other object than to amuse the farmers, without trying to secure protection to them.

Not a landlord, of the body, has made an effort in earnest, to procure protection to agriculture. All was pretence, unmeaning formality, or downright quackery. The Cambridgeshire farmers have left the central society—and we trust that all the farmers in England will follow their example, and depend hereafter, only on their own exertions!

The farmers of England may, undoubtedly, do much, not only for their own protection, but for the protection of all classes of producers. Let the farmers of England organise themselves in every county, after the model of the Cambridgeshire Farmers' Association. Let them demand, and take measures to secure, PROTECTION FOR NATIVE INDUSTRY. Let the attempt but be made simultaneously; and landlords, on the one hand, and masses of labourers, on the other, will soon be found to aid them in their efforts.

Meanwhile let the Cambridgeshire farmers bestir themselves. All depends upon their activity at the present moment;—and although the pressure just now, is not so severe, as they have felt it, yet days are at hand more fearful—if the danger shall not be averted—than any which the present race of producers has ever witnessed!

THE NEW AGRICULTURAL INSTITUTION.

SIR,—In *Bell's Weekly Messenger* of last two weeks, I observed two letters signed “R. Broun” in which he attempts to make the proposed Agricultural Society, the butt of his witticisms; ridicules the proceedings of the Highland Society of Scotland, and reckons practical improvement in every point of view, a minor consideration. You have little to fear from such a puny antagonist, he is just such a reasoner as Mr. Burges is a lecturer, both admirable

specimens of the Society itself. The Central Society may hold meetings, and debate for years on the corn and currency questions; but they have no power to enforce their policy, and a majority renders all their political agriculture of no use in these points. The farmers have a monopoly of the home market, and if their branch of business be unfairly dealt with the means of redress are known. Two passages in these letters are worthy of remark; that improvement in practice is a minor consideration, and that the Highland Society of Scotland is wholly inefficient; most certainly good cultivation seems a minor consideration, for it appears to be intentionally neglected. But, I would ask the writer, whence and from what policy, have been derived the great fortunes realised by individuals from farming, from practice, or useless debates? They used one policy, superior management. Whence have been derived the princely fortunes of Peels and Arkwrights, but from practice? They did not condemn improvements as the farmers do, because it is not customary. If the Central Society be so intent on introducing a better policy, there is plenty of room for it; but we see no result either in policy or in practice. Means and co-operation we are told are only wanting to make it effectual; means, we may say, are only wanting to make the Thames flow back to its source, but when the public are convinced that no benefit would result, the means are very judiciously withheld. Speeches and debates never will put one shilling into the pockets of the farmers: any improvement in practice which will enable him to grow more produce at a profitable cost, will outweigh all the letters of skirmishing scribblers, who have deluded the farmers until delusion can be no longer practised.

In a long rambling article on the inefficiency of the Highland Society, the writer merely shows his utter ignorance of the matter. A constant attendance for many years at the meetings of the Society, enables me fully to contradict the statement here put forth. No body of individuals in any country, ever more fully and effectually fulfilled the intended purpose; and so far from being in want of co-operation, their funds are always joined with those of local societies, in order to increase the premiums, and they maintain a constant correspondence on every subject connected with agriculture throughout the kingdom. It has body, head, and members, sound, healthy, and influential, and never employs, or needs its own members, to sound its praises. It is true they do not publish in their transactions such a lecture as Mr. Burges's, if they did, they would not publish one-half and withhold the other. It is no part of their policy to let land lie uncultivated, and starve the labourers, they employ them in cultivation; they avoid a great national loss by keeping no old turf of weeds, and they adopt every means that may conduce to the prosperity of agriculture: they divest themselves wholly of prejudice and custom, the incubus of the English farmer, and, provided an improvement be shown, it matters not whence it comes. They may not have such acute reasoners as Mr. Paulet Scrope, but they have men of sound practical judgment, who know that rent may be paid in various shapes, and amount to the same thing. Mr. Blacker has betaken himself to improvement in practice, and his example and authority completely refutes the idea, that improvement in practice is a minor consideration. The writer enumerates a long list of blessings Scotland enjoys, and concludes, that no Mammonism exists there. So many, and so very ridiculous reasons have been urged, to account for a system of superior husbandry which prevails there, that it is almost unnecessary to notice them; but I

may observe once more, that it is merely an application of capital and labour, to cultivation under a different system. The same means are open to the landowners and farmers in England; but from some inexplicable reason, best known to themselves, the custom of the country must not be altered. From a fiction of the imagination, the writer says, the Highland Society would not do for England, and from a similar fiction, the farmers believe any alteration would not do for them. And landowners and farmers hold meetings and establish societies, and discuss questions, and at the same time any alteration is forbidden, and creep in at a snail's pace. As to the advantages Scotland enjoys; I can assure the writer from extensive practice in both countries, that England enjoys many and great local advantages, superior land, better climate, higher prices, and more money. To declaim ignorantly on the other side, is an open contradiction of facts. He says machinery has never superseded manual labour in Scotland; now the very contrary is the fact, for machinery is universally adopted for threshing the grain crops, and the labourer is applied to productive points. The writer may scribble weekly, daily, and hourly, but he will not put one shilling into the farmers' pockets; one single improvement will outstrip his policy, for it never will be applied; and I strongly recommend as part of my policy to employ in cultivation the labourers he mentions, well yoked in a waggon, for his policy or his letters never will relieve them, their not being employed rests with the landowners and farmers. A person would suppose that a pressure of burdens would stimulate the farmer to grow more produce to enable him to pay them, but the contrary appears to be the case. I am certain Earl Spencer during the whole course of his extensive practice, has ever found profits to result from improved practice, conducted on sound principles. I hope soon to see the Society established, and in action; but I should be sorry to see it countenance the publication of such absurd rhapsodies as have lately emanated from this pseudo Central Agricultural Society. I should be sorry to see it publish such theories as transplanting turnips to save hoeing, for they only excite the derision of practical men, and confirm the prejudices already entertained against innovation and experiments. The names of the projectors, however, seem a sufficient guarantee that its constitution and operations will be on sound principles, and this being the case, it cannot fail of being supported by every well-wisher to British agriculture.—I am, &c.,

RUSTICUS.

THE NEW AGRICULTURAL SOCIETY.

TO THE EDITOR OF THE MARK LANE EXPRESS.

London, March 12.

SIR,—Understanding that the Central Agricultural Society intends holding its next annual meeting on the 20th inst., I feel desirous of making a few remarks, on the policy of upholding it.

The influence which a real union of purpose, among such a numerous and powerful class of individuals, as the land proprietors and landholders, throughout this kingdom, would possess, must be of the utmost consequence to the community at large; for, unless they assume a character beyond suspicion, as to their real and equitable intentions towards the public, they would be considered a dangerous body, to the commonwealth: and should

they persevere in founding so formidable an establishment, upon dogmatical principles, which it is to be feared the columns of the defunct "agriculturist" newspaper too faithfully show to have been the original design, especially in regard to the currency question, and the new poor laws, such an institution most assuredly, cannot receive general support, consequently, must die a natural death.

On the other hand, seeing the depressed position of the agriculturists and land proprietors, which a judicious union of interests might obviate it is greatly to be regretted, that a different course has not been pursued, by patiently watching the course of events, and carefully examining such hints and propositions as might have been offered to them, from time to time, for their guidance. Had they adopted this course there can be little doubt that in time, the result would have been satisfactory, and possibly, without the necessity of any interference with the legislature for further protection than what they now enjoy, especially, when the great improvements daily introduced for the better cultivation of the soil, shall have become more generally adopted.

The great object which such a society ought to have constantly in view is to obtain for the cultivator of our own soil, whether labourer, landholder or land proprietor, a steady and reasonable remunerating profit, for labour and capital employed. Under our present corn laws which, it would be the duty of such an institution to uphold, a systematic arrangement might be entered into, through which the markets might be so regulated, that the average price of corn, should not be permitted to deviate in any part of the year, so much as to allow the introduction of foreign grain, and yet to obtain a price quite equal to the ability of the labourer and artisan to procure the necessary support for themselves and families, out of their wages. Beyond this, we have no right to demand protection. But as long as foreign corn and foreign labour are permitted to supplant British industry and capital, such measures as the abolition of the malt duty, can do little towards the encouragement of our own agriculturists, and would materially affect the revenue. Another duty would devolve upon this association, which comes the next in importance to the exclusion of foreign corn; and that is, to put the Irish peasantry into the way of consuming their own produce, instead of allowing them to starve in the midst of superabundance, which is thrown into this country, followed by its starving population; thus in a two fold manner reducing our labourers to pauperism, while it deprives the agriculturists of the necessary means of relieving them.

Proposals having been lately made for the establishment of a new society, for the encouragement of agriculture, on principles of a totally different nature from those above referred to, it would surely be wise of the Central Society to espouse its cause, and relinquish to it, that department intended to be taken up by the newly proposed institution, and out of the two societies, form a Club, from which great benefit might be expected to arise to the landed interests.*

Should you deem the above hints and suggestions worthy a place in the *Mark Lane Express*, they are quite at your service. Yours, &c.

A SPECTATOR.

* How far these associations might be beneficially connected, indirectly, with the Labourer's Friend Society, would be worthy consideration, especially in adopting means of increasing the consumption of Irish produce at home by the labouring classes.

THE NEW AGRICULTURAL INSTITUTION.

MR. HANDLEY'S LETTER TO EARL SPENCER.

(From the "Norwich Mercury.")

We owe to the recommendation of Edmond Wodehouse, Esq., the perusal of a pamphlet which cannot fail to interest very deeply the agriculturists, not only of Norfolk, but of every part of England. It is "A Letter to Earl Spencer, on the formation of a National Agricultural Institution, by Henry Handley, Esq., M.P." This tract has the supreme merit of being practical and practically true—that is to say, of directing the minds of all concerned in the cultivation of land to their varied resources—science, skill, and industry, employed in the zealous endeavour to carry forward the progression of their art, and, by adding to the general production, to add also to their own wealth and prosperity. We especially admire Mr. Handley for the candid declaration he makes at the outset, when he says—

"Farmers are, I believe, at length convinced, that it is not in parliamentary interference that they must seek a remedy.

"Repeated inquiries have terminated in repeated disappointments. It is to their own energies and their own resources they must look, and, by cheapening the cost and increasing the amount of production, pave the way to future prosperity."

Such has ever been the opinion of the Patriarch of the first of arts—of him who has done more for agriculture than any other person upon the face of the globe—the present Earl of Leicester. This is the truth, the whole truth, and nothing but the truth—and one which we have never omitted to enforce whenever we have had occasion to address our readers on this matter of universal primary interest. The words "legislative protection" contain the grossest delusion ever put upon an ignorant and a credulous public. They have been the cause of the farmers' losses since 1816—they have plunged thousands into absolute ruin, and impoverished all. Mr. Handley cannot render a better service to the landed interest—the tenantry in particular, than by the manly way in which he has pronounced upon this fallacy—no, not even by the great benefits which his book prospectively points out.

Our author's plan is to demonstrate the comparatively low state of farming, and to display the wide and various means of improving his art which open to the philosophical agriculturist; and he contrasts, with much spirit, the opinions of the old school with the superior views and attainments of the present and rising generation of farmers.—

"The former, confined during their lives," he says, "to their own immediate neighbourhood, with no further intercourse with the world than their market town might afford, and with minds uneducated either to seek or appreciate information, we perhaps ought not to be so much surprised, that whatever improvements may have been discovered, have scarcely travelled beyond the limits of their first application.

"That class is, however, fast passing away. Education, which happily has penetrated into every quarter of the country, has furnished in their place an intelligent and a thinking race of men, who desire knowledge, and who are ever striving to obtain it. The facilities of internal communication throughout the empire have tempted and aided their endeavours. There are few young farmers with adequate means who do not avail themselves of it to see and learn; and the comparisons

which they have thereby been enabled to institute between the varied systems of farming which pervade different districts, become the subjects of their consideration, and are, according to their supposed merits, adopted or condemned.

"It is to encourage and direct the praiseworthy efforts of this valuable and deserving class that I call upon your Lordship and the landed proprietors of England, for your own sakes as well as theirs, and, permit me to add, for the credit and advantage of our common country, to bring to bear upon this subject the invaluable aid of science.

"Science—by which is to be understood that knowledge which is founded upon the principles of nature, illustrated by demonstration—is the pilot that must steer us into those hitherto imperfectly explored regions, where, I am well convinced, a mine of wealth is still in store for British agriculture. Chemistry, Botany, Entomology, Mechanics, require but to be invited to yield us a harvest of valuable information to guide and to warn us."

Mr. HANDLEY then takes a rapid view of the different courses adopted by manufacturers, which he holds up in example to the cultivators of the soil. It has, we may be allowed to remark, been but too much the custom to consider the interests to the two classes as separate if not opposed to each other. Now the truth is exactly the reverse, they are mutual aids—it belongs to "protecting" provisions, on which soever side they are exercised, to encourage this fatal opposition. Hear what the first of English historians has said on this head in treating of the condition of the first of empires!

"Agriculture," says Gibbon, "is the foundation of manufactures since the productions of Nature are the materials of art. Under the Roman empire the labour of an industrious ingenious people was variously but incessantly employed in the service of the rich. In their dress, their table, their houses and their furniture, the favourites of fortune united every refinement of convenience, of elegance, and of splendour, whatever could soothe their pride or gratify their sensuality! Such refinements, under the odious name of luxury, have been severely arraigned by the moralists of every age; and it might perhaps be more conducive to the virtue as well as the happiness of mankind, if all possessed the necessaries and none the superfluities of life. But in the present imperfect condition of society, luxury though it may proceed from vice and folly, seems to be the only means that can correct the unequal distribution of property. The diligent mechanic and the skilful artist who have obtained no share in the division of the earth, receive a voluntary tax from the possessors of land; and the latter are prompted by a sense of interest to improve their estates, with whose produce they may purchase additional pleasures. This separation, the particular effects of which are felt in every society, acted with much more diffusive energy in the Roman world. The provinces would soon have been exhausted of their wealth, if the manufactures and commerce of luxury had not insensibly restored to the industrious subjects the sums which were exacted from them by the arms and authority of Rome."

To advance and call into full operation this reciprocating influence is the most useful end to which statesmen, the proprietors of the soil, political economists—indeed all classes can direct their efforts, and Mr. HANDLEY's recommendations give the most important proofs of the truth of the Historian's dictum, that "the productions of nature are the materials of art." But he has well noticed that while "the commonest printed calico combines the united products of the four quarters of the earth—

the cotton of America, the indigo of Asia, the gum of Africa, and the madder of Europe, all brought from remote regions to produce a rustic's gown-piece—since the introduction of the turnip as a field crop, upwards of a century ago, we look in vain for any improved practice that may be viewed as an epoch in the cultivation of the soil; and we are still so far in ignorance of the first principles of our science, that we do not yet know with accuracy in what the food of plants consists." This indeed is the text upon which his whole discourse is founded. Mr. H. courses with rapidity through the various openings made by chemical, botanical, natural, and mechanical science, and shows how very few are the steps which have yet been taken towards the perfection these sciences promise. We do not quote the passages, for we wish every farmer to read them, which they may do at a very small expense, and we promise it will direct their enquiries to many of the most valuable springs of agricultural knowledge, besides the direct information conveyed.

The sum and substance indeed is to solve the problems,

"Firstly. What constitutes the food of plants? Secondly. In what fertilizing properties the soil is wanting? And Thirdly. What manures are best suited to supply the deficiency?"

This is indeed the grand secret, and that it may be solved there cannot be a doubt. We have indeed a direct instance and analogy very near at hand. Mr. GEORGE THURTELL, whose successful cultivation of flowers can leave no doubt of his superior skill, attributes much if not most of his power over the size and beauty of his productions to a right assimilation of their food. The analogy must hold with regard to the whole vegetable world.

But we must come to the object of Mr. Handley's address—the *establishment of a National Agricultural Institution*, and here we shall give his own words, only premising that we most cordially wish that the plan may be adopted, for nothing can tend more to the diffusion of that spirit of enquiry, which alone has been wanting to give to agriculture an equal progression with the other arts.

"The first step to the formation of a Society in England will be to unite, in active co-operation, all, be they landlords, tenants or others, who feel an interest in advancing the prosperity of British agriculture.

"When the necessary funds shall have been obtained by subscription, it will be desirable to form an establishment in London, comprising a complete Agricultural Library, a Museum for specimens of seeds, plants, &c., for models of implements, and, in all cases where it can be effected, for the implements and machines themselves, together with the means of trying them. To engage the superintendence of men eminent in the respective branches of science. To collect reports on foreign agriculture; to correspond with other societies both at home and abroad. To refer, as in the French Institute and the British Association, papers or professed discoveries of acknowledged importance to select committees to investigate and report. To amass statistical information interesting to agriculture.

"To offer premiums for inventions, bearing some proportionate value to the expenses to be incurred; or in certain cases defraying the cost of experiments, observations and reports;—a course pursued by the British Association; and above all, to communicate to the agricultural classes throughout the kingdom, by means of cheap publications, all matters of moment, which shall have been submitted to the competent authorities of the society, and which shall have stood the test of fair, rigid, and impartial experiment."

THE PROPOSED AGRICULTURAL INSTITUTION.

MR. HANDLEY'S LETTER TO EARL SPENCER.

We have before us Mr. Handley's letter to Earl Spencer on the formation of a National Agricultural Institution, as proposed by the noble earl at the last meeting of the Smithfield Club. There is very little in Mr. Handley's pamphlet which does not meet our implicit concurrence; and even that little relates more to the causes why all such institutions have hitherto failed, than to any doubt as to the practicability of their being rendered most useful and efficient. The Board of Agriculture, which was dissolved in 1817, had many difficulties to contend with, which the experience of its fate will teach all such future associations to avoid. For some thirty years the three leading men of the agricultural interest had been Arthur Young, Webb Hall, and Sir John Sinclair—all of them endowed with considerable industry and talent, but unfortunately, at the same time, afflicted with particular crochets of their own. Arthur Young was one of the most diligent observers and extensive writers upon farming, and yet himself the most slovenly farmer in England. Webb Hall was, on the contrary, a good farmer and a good pushing man of business, but unluckily had nothing conciliatory in his manners, and could not or would not understand that there might be occasionally some difference of opinion as to the expediency of the measures he proposed. And lastly, Sir John Sinclair was so currency-bitten by Mr. Thomas Attwood, the present member for Birmingham, that his identification with Mr. Attwood's peculiar and questionable views made him an unpalatable and troublesome organ to communicate with official people, and in no slight degree doubted by the agricultural body itself. From these and other similar causes, the Government dissolved the Board of Agriculture in 1817; and the landed and agricultural interests witnessed its dissolution without any great demonstrations of regret. We do not rake up this history of the Board of Agriculture merely for the sake of reflecting upon the injudicious conduct of those who had the management of its affairs, but as a warning to the promoters of the new institution to avoid the errors of its predecessors twenty years ago. Mr. Handley seems to think that the Board of Agriculture was allowed to expire, because the terms were not favourable to agricultural improvement. He says,—

"In canvassing the subject heretofore, I have found that the comparative failure of the Board of Agriculture, once deemed worthy of a parliamentary grant, and for more than twenty years carried on under the zealous and able superintendence of the late Sir John Sinclair, has been frequently quoted as a discouragement to any similar attempt. In this objection there appears to me but little weight. The Board of Agriculture existed at a period when it was least likely to attract the settled attention, or command the energies of agriculturists. It was discontinued, too, at the precise time when, as subsequent events have proved, it ought to have been established. A period of war is ill-suited to national improvement of any kind: during the continuance of war prices, when half a crop remunerated the grower, and the most slovenly farmers amassed wealth, the usual inducements to extraordinary exertions were wanting; and we of the present day, to whom the quotations of "wheat from six to eight guineas per quarter" are but as dreams of fiction, are not only not surprised that our more fortunate predecessors did not effect more,—but we only wonder that, if possible, they did not exert themselves less.

"In 1817, however, the date when the Board of Agriculture ceased to exist, a new era was about to open upon us; and without debateable causes of the depression of agriculture, which has since ensued, whether arising from the transition from war to peace,

the resumption of cash payments in 1819, excessive importation or over production, it is sufficient to have ascertained that a vast reduction has taken place in the prices of agricultural produce; and it is at least prudent to anticipate that for the future we must look to comparatively low prices, subject of course to the variations which seasons and circumstances must necessarily entail."

We quite agree with Mr. Handley that there is no hope of wheat being sold again at 8s. per quarter; but on the other hand, his position that the high price of grain 30 years ago arose from idle cultivation, and consequent scarcity, is one to which we cannot assent. It is neither compatible with sound reasoning or actual facts. If farmers at the beginning of the present century had understood the science of agriculture as well as it is understood now, in many parts of the country, the high price of their produce, instead of rendering them careless and supine, would have impelled them to turn every spot of ground to the most profitable account. Moreover that twenty years ago when the Board of Agriculture was abandoned, was a period unfavourable to agricultural improvement, is another opinion hardly reconcilable with the wonderful amendments of system and mode which several counties exhibited within the next four or five years. There is no necessity for Mr. Handley traveling very far from his own house for a confirmation of our assertion; the system of farming by the aid of green crops having, in his own county, rescued thousands and thousands of acres from the condition of wild rabbit warrens, and converted them into the most grateful and most easily worked soils in England. It will be observed that we are not arguing against the belief that agriculture is only *yet* in its infancy—in that belief we are as positive as Lord Spencer himself—we are merely showing, that so far from the Board of Agriculture owing its dissolution in 1817 to a want of enterprise in the English farmer, that was the very period when agriculture as a science first started into existence. That a recognised national institution, like the Board of Agriculture, should at such a period die a sort of natural death, was owing to a principle of decay which it inherited from its birth—namely, its not strictly confining itself to the proper objects of such a board, and being identified with the names of gentlemen known to be very zealous in prosecuting peculiar notions of their own trust; and therefore Lord Spencer's preliminary caution of the association devoting itself *solely* to the advancement of agriculture, in a scientific point of view, will not be thrown or frittered away.

We expect that Mr. Handley's pamphlet will obtain an extensive circulation, for few gentlemen are better acquainted with the subject, or have paid more attention to it. The analogy which he draws from the breeding of stock to the cultivation of the soil, shows how much may be discovered and done by repeated experiments.

"Those who were attentive observers forty years ago of English agriculture, while they may condemn the comparatively stationary condition of arable lands in many districts, will nevertheless bear testimony to the rapid and marked improvement in the breed of stock, both cattle and sheep, which has taken place during that period.

"This is, I believe, largely attributable to the stimulus which has been afforded by the Smithfield Club, and those minor and tributary societies, which have been established on its principles throughout the country, and which have been the means of directing the efforts of the breeder to the production of such animals as unite the most profitable qualities."

A hundred years ago a two-year old sheep rarely exceeded thirty pounds in weight. We know what we can breed and feed them to now; and there is every reason to anticipate that even much more may be done in agriculture than has been already achieved in grazing. —*London paper.*

REMARKS ON THE TURNIP FLY.

(Haltica nemorum.)

BY HENRY LE KEUX, ESQ.

Having thrown my notes together relating to the Turnip Fly, with such additional information upon the subject generally as I have been enabled to acquire, I have now the pleasure to lay them before the Society.

Having witnessed the destructive effects of the Turnip Fly in the year 1830, whilst lodging at a farm-house in Devonshire, I was led to observe its habits, and to try many experiments, in the hope of being able to find some means of guarding against its attacks. My first observations were made upon a field of about eight acres, forming the apex of a hill, which was sown with turnips. When the young plants were just rising above the ground, the wind was in the south-east, and continued to blow from that point for more than a week, carrying in its course the scent of the turnips over the fields lying to the north-west, and the turnips on the north-west side of the field were so destroyed by the fly that nearly an acre was quite bare, whilst the south-east side was not attacked in any perceptible degree until after the plants had attained to such a size as not to be much injured by their depredations. This circumstance led me to conclude that the fly had been attracted by the *scent*, which subsequent observations have confirmed. When I became familiar with the form and character of the insect, I very soon found that its locality was not confined to turnip fields, but that it was to be met with in grass lands which had not been ploughed for many years, and where no turnips were to be found within half a mile. I have since found them in abundance in dry situations in all grass lands where I have taken the trouble to search for them. Although I found the insect in such abundance, I was unsuccessful in my endeavours to discover its mode of breeding until after five years, when a small piece of land (the upper part of a field sown with barley) in a sheltered situation with a south aspect, and which had been well dressed with lime, was sown, early in May, with white stone turnips for the table, but they no sooner appeared above ground than they were destroyed by the fly; it was then sown again and harrowed, and the surface thickly strewed over with wood ashes, but the plants were again devoured as rapidly as before, and not more than a dozen acquired the rough leaf, and a few of these survived till the leaves grew to be six or seven inches in length, but they were perforated in every part. Upon examining one of these leaves (a portion of which, preserved dry, I send with this paper) against the light with a magnifying glass, I perceived a larva between the upper and under surface, a careful inspection of which led me to think it the larva of a beetle, and probably of the one I had been so long in search. I hastened back to the field, and carefully removed the earth around the plant from which the leaf had been taken, and there had the satisfaction to find the specimens of the larvæ and pupæ which I sent to my friend Mr. Raddon, who did me the favour to transmit them to the Entomological Society.

I had previously endeavoured to breed them by keeping a number confined in a small box covered with gauze wire, but as I could in this way only feed them by dropping in fresh bits of turnip leaf

daily, I did not succeed in my object, although the insects appeared healthy, and I kept them alive in this manner from July until February in the following year. The reason of my failure is now sufficiently obvious, since it is necessary that the leaf should be in a growing state, otherwise the eggs which are laid upon it shrivel up when the leaf becomes dry. Being still at fault as to the origin of the larvæ, I captured ten males and ten females in pairs, and enclosed them in a glass tube covered at each end with gauze wire, into which I introduced a single leaf of turnip, with water to keep it fresh; by this means I was enabled to examine the insects and leaf on all sides with a magnifying glass at any time without disturbing them. Having, previous to introducing the leaf, ascertained with a strong magnifier that there were no eggs or larvæ upon it, on the following day I had the satisfaction to perceive five small, smooth, oval-shaped eggs adhering to the under-side of the leaf, and so nearly resembling it in colour that I was no longer surprised that they should hitherto have escaped my observation. This leaf was removed with the eggs upon it and placed in water, and its place supplied by a fresh one, which, on the following day, had three eggs upon it, and the third leaf four eggs, each of which leaves was placed separately in water. The fourth leaf I suffered to remain with the insects a week, supplying it with fresh water daily, and at the end of that time it had thirty-one eggs upon it. In two other glass tubes I confined single pairs of insects with a leaf in each, upon which I never found more than a single egg deposited on the same day, and in those leaves taken from the field with larvæ in them (some containing six) no two of them were of the same growth. I found great difficulty in preserving the leaves during the length of time necessary for the hatching of the eggs, and as it would have been impossible to have preserved them long enough for the feeding of the larvæ, I began to despair of success, until I observed that in those leaves taken with larva in them from the field, it was not uncommon for the larva to leave the burrow it had first commenced, and travelling (which from its formation I had supposed it incapable of doing) to a distant part of the leaf, form a new one. About the time, therefore, when I expected the eggs to hatch, I placed fresh leaves by the side of the old ones, to which the young larvæ soon found their way and lodged themselves. The egg hatches in ten days from the time it is laid, and the larva immediately begins to eat its way into the leaf, and form a burrow by feeding upon the pulp between the upper and under surface of the leaf, which however is not easily perceptible to the eye unless held up against the light, although the track is sufficiently obvious after the larva has left it, and it has become dry. The larva is full fed, and goes into the earth at the end of sixteen days, burying itself about an inch and a half below the surface, and in such a situation, that the turnip leaf above may afford shelter in case of rain. I have reason to believe that it remains in the earth about a fortnight before changing into the perfect beetle. Some of the first specimens of larvæ and pupæ which I took in the field, I placed in finely pulverized and very dry earth, and in a few days they were shrivelled up; the others I also put into fine earth and saturated it with water. Unfortunately there was no opening at the bottom of the cup; and the next day, perceiving that the earth was still saturated with water, I drained it and removed the larva, but they were all dead; this

accident may serve to account for the scarcity of the insects after very wet seasons. I have been equally unfortunate in my last attempt to ascertain the precise time between the larva and the perfect insect, for I covered the earth in which I had placed them so closely, on account of their small size, to prevent them from escaping unobserved, that the earth became mouldy, and they were all destroyed; but I have a great many specimens of the beetle produced from larvæ, which I fed and placed in a garden-pot enclosed in a cage of fine gauze wire, but they, being introduced at various times as they became full fed, I could not ascertain the precise time of any individual specimen.

Not being an entomologist, I cannot pretend to describe the insect scientifically, but it may perhaps be as well to state that, although commonly spoken of as a fly, it is a small beetle (*Haltica nemorum*) of a black colour, with a longitudinal stripe of light brown on each of the wing cases and it is furnished with six legs, the hinder pair of which are powerful springers, like those of a flea, by which it is enabled to leap a distance of from twelve to eighteen inches without the aid of its wings, which latter I have not observed it to use except in warm sunshine, or when the thermometer stood above 70° in the shade. One day in May, 1836, when the thermometer stood at 75° in the shade, during a light south wind, great numbers of them were on the wing, which, from their minute size, I should not perhaps have observed but for the circumstance of their striking against me and falling, before they could recover their wings, upon a piece of white paper which was before me at the time, and I counted upwards of twenty in less than half an hour. They were all proceeding southward. When many of them are confined together, an odour like that of the "Lady Bird" beetle is perceptible, and is very strong from one that is crushed. They pair towards the end of May if the weather is warm, and continue to do so during the months of June, July, and August. They live through the winter secreted in the crevices of old timber, the rough bark of trees, and particularly in dry, loose banks. They occasionally leave their hiding-places in the winter when an unusually warm day occurs; at such times I have met with them in the months of January, February, and March, on a barkless and decaying stump of a tree, on the side of a dry bank, and on clods of earth, when they were as active as in the summer, but only when the sun has been shining, and in a situation sheltered from the wind. But those which I have discovered in their haunts in cold weather were torpid or inactive; indeed I thought them dead until the warmth of my hand, in which I was conveying a number of them home, revived them, and in a few minutes they had all skipped away. From the fact of their being found in such various situations, I think there can be little doubt that they breed in many other plants besides turnips, probably in any of the cruciform kind. The weed growing in the hedges, and generally so annoyingly abundant in turnip fields, and called *Chorleigh* by the Devonshire farmers, affords the *Haltica* a welcome feast towards the end of April and during May, when I have found plants of this kind covered with them, and every leaf pierced full of holes, but these are presently deserted when any turnips appear in the neighbourhood.

I am sorry to be obliged to add, that in the more important object of my search for some antidote to their destructive attacks upon the young turnip,

I have not hitherto been successful, although I have devoted much time to it, not neglecting any opportunity of trying such experiments as I thought likely to effect so desirable a purpose. The insects being so universally spread over the country, places the possibility of exterminating them out of the question. From the manner in which it breeds, it is obvious that no injury, or none of any consequence, is done to the turnip by the larva, the mischief being effected by the insect in its perfect state, which, having secreted itself through the winter, comes from its hiding place with the return of warm weather, with a keen appetite, and is attracted from all quarters by the scent of turnips with as much certainty as the crow is attracted by the smell of carrion to feast upon its favourite food.

The inefficacy of *lime* as an antidote was strikingly apparent during my first observations, where the land was dressed with it (forty bushels to an acre) immediately before the seeds were sown, and when the plants came up and the fly was observed attacking them, *lime* dust was thrown over them, so that many of the plants were quite white with a coat of it. Notwithstanding this I found as many flies upon the whitened plants as upon any of those which were free from lime, and they were eventually devoured. In one part where the fly was particularly numerous, I marked out a small square, and with a syringe washed over every plant within it, singly, with sulphate of potash; but although it was so strong as to destroy some of the plants, and to leave a white sediment when dry upon all, I found the flies upon them the next day nearly as numerous as before this application. I wetted some of the plants with distilled water, (spring-water does not adhere so well to the plant,) and these were entirely free from the fly *so long as they remained wet*; and if one happened to alight upon a wet plant, it instantly sprang off again. But of all the numerous applications which I tried upon the leaf, none were effectual in deterring the fly, though detrimental to the plant itself; and I found any attempts of this kind must be unavailing, because although the upper side of the leaf may by any preparation be rendered unpalatable, and even poisonous, to the insect, it will still eat away the *underside* with impunity, and leave nothing but the upper epidermis or skin.

I next tried various matters mixed up with or strewed upon the earth, that might be offensive to the fly by the odour or effluvia exhaling from them. The first of these was powdered sulphur strewed over about one-tenth of an inch thick; the effluvia from this was perceptible to me when standing near it if the sun was shining, but so far from deterring the flies, I thought they appeared more numerous in this spot, and it certainly improved the appearance of the *plants* growing in it.

Amongst many other things, I tried snuff and assafœtida, and a box of the powder for preserving furs from moth, sold under the title of "*Anti Tinea*," but none of them had the slightest effect. Latterly I found it more convenient to try the effect of various substances on the side of a cage containing a great number of the flies, and having placed a small piece of carbonate of ammonia there, to my great delight all the flies drew away from it, and kept in the further side of the cage; upon changing its position to the side where they had all congregated, they immediately began to move away again. I then took a glass tube containing a number of them, and placing the lower gauze wire upon a large piece so that the effluvia

from it might pass through the tube, when they instantly began to leap violently, but in a few seconds fell to the bottom motionless; I immediately removed them, but they were quite dead, for not one recovered though laid upon fresh leaves. I congratulated myself on having at last found the object of my search, and went the same evening up the hill and sowed a patch with turnip seed, and on the fourth day (which I waited for with impatience) when I expected the plants to appear, I strewed it over with the ammonia broken into fragments about the size of a pea, but when the turnips began to show above ground, my disappointment was extreme, to find that the effluvia was destructive to the young plant if a bit was lying within an inch of it, and those plants which were not injuriously affected by it were attacked by the fly. Notwithstanding this remarkable failure, I still think that the antidote, if ever found, must be sought for in some effluvia or odour which may be either offensive to the insect when near, or so overpower the scent of the turnip as to prevent the fly from distinguishing and being attracted by it. Or it may, perhaps, be equally advantageous to divert their attacks by a more attractive food, such as sowing the *white stone turnip* mixed with the Swedish turnip; for I have *invariably* found where this has been done that the former are first attacked, and sometimes, indeed generally, nearly destroyed before the latter have been touched, and by that time have grown to such a size as not to be materially injured by them; and in seasons when the fly has not been very numerous, the "*Swede*" has not had a single puncture upon it, whilst every leaf of a white stone turnip, by the side of it, has been pierced full of holes. The last experiment which I tried had the appearance of being more successful than any of the preceding ones, but as it was made so late in the season (the latter end of August), and several days' rain (the best protection) occurred at the most critical time, it can hardly be called a fair trial. Having sown a little piece (a yard square) with turnips on the hill, swarming with the fly, I poured over it (on the fourth day) a quart of a mixture composed of one ounce of tar, one ounce of olive-oil, and two ounces of strong caustic potash, well mixed together, and then shaken up with the requisite quantity of water. Not many of the seeds came up (probably from the lateness of the season), but those were of a healthy colour, and acquired the rough leaf without any of them being punctured by the fly, excepting a few on the windward side of the patch.

This mixture formed no protection from the slug by which the plants were all soon eaten off. Having now left the county, I have no means of pursuing the inquiry, but I cannot help thinking this experiment would be worth repeating on a larger scale.

I believe it is not generally known that the wire-worm and the ant are both entitled to a considerable share of the odium usually cast upon the fly alone; the latter, however, on account of the great devastation committed by it, is justly entitled to be considered as the *most* formidable enemy of the turnip crop. The wire-worm seldom feeds above ground in the day-time unless it be cloudy and dark; at such times I have observed them devouring the young turnip plants before the rough leaf has been formed, but their most destructive operations are carried on beneath the surface of the earth, where they attack the root; in the very early state of the plant, after eating

this through, the upper part of the plant is gradually drawn down into the earth and devoured, so that the plants disappear without any perceptible cause and without any trace of them being left. In the more advanced state of the plant their devastation appears to be confined to eating through the root, and having thus killed one plant they proceed to another. If a turnip plant appears drooping (as if from the want of water) whilst those in its neighbourhood are fresh and erect, a wire-worm (sometimes half a dozen) will be sure to be found at the root, if the earth around it be carefully removed. I think it probable that the *mole* may prove the best protection against the ravages of this insect, because I observed that seven years ago moles were very numerous all over the farm, and at that time the wire worm was never found to be injurious to any of the crops; but a war of extermination has ever since been most sedulously carried on against the mole, and with such success that it has become a rare thing to meet with one upon the farm. The wire-worm, on the contrary, is now so abundant as to cause very serious and perceptible injury by laying bare large patches in the different crops.

When the land is in a very dry state, every agriculturist must have experienced the great length of time the seed will remain in it without signs of vegetation, until after rain has fallen; and then he is surprised at the small number of plants in proportion to the seed sown, perhaps only one in about one thousand. In an instance of this kind, whilst searching for the *Haltica* with a magnifying glass, I observed many ants travelling along, each bearing similar particle of something in their mandibles, which, upon closer inspection, I found to be turnip seeds. As the ants were to be found all over the field busily occupied, if each of them carried off only one seed, the crop from those remaining would not require much thinning with the hoe afterwards. I fully intended to have traced some of them to their nests, and to have ascertained whether their granaries contained any store of turnip seeds, but accidental circumstances and other engagements prevented my doing so. Perhaps some one more at leisure than myself will find an opportunity of making the examination. With a view to guard against this evil, before sowing the seeds, I immersed them for five minutes in a solution of one drachm of corrosive sublimate in two quarts of water, and then spread them upon paper in the sun to dry, but this injured the germinating powers, as very few of them came up, and those looking feeble and sickly, perhaps a much weaker solution and a simple immersion without permitting them to remain in it any time, would be sufficient to render the seed unpalatable to the insect without injuring its vegetating properties. The ant also injures the young plant, but in a small degree proportionate to the other two insects.

The appearance of an injured plant will enable any one examining it to decide whether it has been caused by the fly, the ant, or the wire-worm. The fly begins by eating a round hole, wide at the top, and gradually diminishing to the bottom, until the leaf is perforated, when it sometimes continues to enlarge the aperture until its appetite is satisfied. The large holes observed in the leaves were made in their early state, and have enlarged with the growth of the leaf. The ant does not eat the leaf, but punctures it with its mandibles, and then sucking out the juices, produces yellow withered-looking spots on the spring leaf, which

destroys it. The wire-worm begins on the edge of the leaf, and eats it away like a caterpillar, and often cuts the leaf off at the top of the stalk, and it may sometimes be found on the ground half-devoured. One wire-worm will consume about as much as five or six flies could do in the same time.

The grub is also a very formidable assailant in the more advanced state of the plant, near to which it forms a round hole in a vertical direction (in appearance like that of an earth-worm, but open at the top) about two or three inches deep in the earth. At the bottom of this it remains during the day, (unless it be dark and moist,) and at night emerges from its burrow, and commences an attack upon the plant by eating round the neck of it, and eventually detaching the upper part from the root, or a single leaf is eaten through at the stem, and when fallen on the ground the nearest edge is dragged to the burrow, where it is drawn in and devoured during the day. Last year (1836) the turnips sown on the south side of a hill having entirely failed, it was ploughed in furrows, and each filled with yard dung, and the earth turned over it by the plough; and on the first rainy day a number of young plants of the Swedish turnip (thinned out from a patch in a moist situation on the north side) were planted on the ridges eighteen inches asunder, and very soon grew remarkably strong and healthy; but after the few straggling plants, in the part left unploughed, had been destroyed by the grub, then those at the extreme ends of the ridges began to disappear, and plant after plant followed from the same cause, until very few were left. Having noticed one fine plant at a distance of six or seven yards from any other, and that a grub had just formed his burrow and begun to attack it, I dissolved a quarter of an ounce of common salt in a quart of water, and poured it over the plant, taking care not to let any run into the hole, or to disturb the grub. When I examined the plant the following day, no further injury had been done it, and on digging up the burrow I found it had been deserted by the grub, which I have no doubt had travelled to the next plant, although at least six yards distant, for there I found a burrow and a recent attack upon the plant which the day before was uninjured. I now washed this also, and several others, with the solution of salt, and for ten days, (during which the weather was hot and dry) no one of them received further injury until a heavy shower of rain fell, after which (as I did not wash them again) they shared the fate of all the others.

In such cases it might be worth while to employ children to dig them out, for they are easily found as may appear from my having collected upwards of thirty in less than half an hour; but the most keen searcher for and destroyer of these is the rook, and I attribute their increase in this instance to the mistaken vigilance of the farmer in shooting any one of them which ventured to set foot upon the land, and hanging him up as a warning to his brethren of the reward they would meet with for any friendly endeavours to relieve him from the ravages of so destructive an enemy as the grub. Then there is the snail and the slug, both great consumers, besides a host of caterpillars of the different kinds of moths and butterflies, the best destroyers of which are the various small birds which the farmer so ungratefully or rather unwittingly attempts to annihilate; for I believe it could be pretty clearly shown that, but for their unceasing assiduity and sagacity in the search of

insects, (and which no human ingenuity could supply,) the whole race would multiply so rapidly as to devour not only turnips, but every other crop upon which the agriculturist depends for his subsistence.

I trust that the above observations, by pointing out many things which have failed to effect the intended object, may at least be so far advantageous as to show the fruitless expenditure of time by others who may engage in the same pursuit; and should they offer any suggestion which may lead to the discovery of a remedy for the evil, it would afford the greatest satisfaction which I could conceive.

AVERAGE PRICE OF CORN FOR SEVEN YEARS.

(From the London Gazette, Friday, January 12.)

Return, stating what has been, during seven years, ending on the Thursday next before Christmas day, 1837, the average price of an imperial bushel of British wheat, barley, and oats, computed from the weekly average of the corn returns, published pursuant to an act, passed in the 6th and 7th years of the reign of William IV., intitled "an act for the Commutation of Tithes in England and Wales." Wheat, 6s. 6 $\frac{3}{4}$ d.; barley, 3s. 11 $\frac{1}{4}$ d.; oats, 2s. 8 $\frac{3}{4}$ d.

WILLIAM JACOB, Comptroller of Corn Returns.

Office of Comptroller of Corn Returns,
Board of Trade, Jan. 12 1838.

The following table exhibits the average price of wheat in England and Wales for the last seven years, from 1831 to 1837, both inclusive; together with the highest and lowest average prices in those years, showing also the rate of fluctuation per cent., calculated on the lowest price.

Yrs.	Annual average of wheat.	Highest price.	Lowest price.	Rate of fluctuation calculated on the lowest price.
	s. d.	s. d.	s. d.	per cent.
1831	66 4	75 1	59 2	27
1832	58 8	63 7	52 4	21 $\frac{1}{2}$
1833	52 11	36 5	49 2	14 $\frac{1}{2}$
1834	46 2	49 6	40 6	22 $\frac{1}{2}$
1835	39 4	43 6	36 0	20 $\frac{3}{4}$
1836	43 9	61 9	36 0	70 $\frac{1}{2}$
1837	53 10	60 1	51 0	17 $\frac{3}{4}$

Annual average price of Barley, Oats, Beans, and Peas, during the same period.

	Barley. Qrs.	Oats. Qrs.	Beans. Qrs.	Peas. Qrs.
	s. d.	s. d.	s. d.	s. d.
1831.....	38 0	25 4	39 10	41 11
1832.....	33 1	20 5	35 5	37 0
1833.....	27 6	18 5	35 1	37 0
1834.....	29 0	20 11	36 7	33 0
1835.....	29 11	22 0	30 0	30 3
1836.....	33 2	23 1	38 4	37 5
1837....	30 4	23 1	38 7	37 9

The value of cattle imported into Liverpool from Ireland, in the first eleven months of last year, amounted to 2,900,000l.; and the value of the insignificant article of feathers, imported into England from that country, is estimated to amount annually to 500,000l.

INCREASING GROWTH OF WOOL IN INDIA.

The American papers last received contain a brief statement of the merino wool grown in that country, and the quantities of machinery employed in its manufacture into cloths, which will be of some interest to those engaged in similar pursuits in this country, whether in the agricultural or manufacturing districts. The total number of merino sheep is stated at nearly 13,000,000, and the value of the fleeces upon an average of years is taken at 1 $\frac{1}{2}$ dollar each, making 19,500,000 as the aggregate worth of the raw material. This, it may be observed, although showing a progress remarkable enough for a new species of industry, falls far short of the declaration of the advocates for the restricted tariff during the discussions on that subject, by whom it was maintained that the value of the crops of wool were then of greater value than those of cotton. The sets of machinery at work are thus enumerated:—In the making of broad cloths, 344; cassimeres, 178; satinets, 574; flannels, 158; leans, linseys, &c., 210; blankets, yarn, and hats, 24; carpets, 61.

With reference to wool, a market for its supply has lately been rising into importance, which in this country appears to have attracted little attention, although, from the extraordinary and yearly increasing extent of its exported product, it bids fair to rival the largest wool-growing countries at no distant period. According to a commercial report in the Bombay paper, lately received to the date of November last, the wool exported from thence in the official year ending the 8th of April previous, already reached to the considerable quantity of 2,444,091 lb. The first exports reported were in 1833, and their progress since is thus stated:—

1833	69,944 lb.
1835	486,528
1836	1,196,664
1837	2,444,091

The sheep are described as being pastured, and the wool produced, in those parts of India bordering on the Indus, and of course beyond the British line of territory. The Bombay people regret that so few efforts have been made to cultivate the breed of sheep in the districts of that Presidency, described as so well adapted, where, however, the subject had at last attracted the attention of capitalists, and very beneficial results were anticipated.

SEED-TIME AND HARVEST.

A Dialogue between a little Boy and his Father.

LITTLE BOY.

"Why waste the wheat I see you throw,
About the fields in handfuls so?"
Thus ask'd a child, with curious eye,
When thus his father made reply:

FATHER.

"It is not waste; the seed I drop
Will bring a noble harvest crop;
When Winter's frost and April's rain,
And Summer's suns have reach'd my grain.
And when, in answer to my pray'r,
My God has kindly bless'd it there,
Autumn will smile, and all I spread
Turn in immense increase to bread;
And thus, in future years a bliss
Reward my labour done in this.
Hence learn this moral.—Who would reap,
Must toil, and wait, and patience keep,
And praise, and pray, and win from heaven,
Blessings to faith and working giv'n;
And little children that would rise,
Must make a willing sacrifice
Of time, and ease, and pleasure now,
As I by harrow, seed, and plough."

MEETING OF THE IRISH WASTE LAND IMPROVEMENT COMPANY.

We solicit the attention of our readers to the sub-joined report of the proceedings at the Half-Yearly Meeting of the Irish Waste Land Improvement Company, which took place on Tuesday, Feb. 26. The prospects of the Company, so far as regards the interests of the shareholders, are very good, and if the benefit of the labouring class in Ireland, from the increase of employment which must attend upon an extension of the operations of the Company be taken into account, the Company should command the support of those who have capital to invest, and who in serving themselves would desire to combine the object of contributing to the wants, we will not say the comforts of others. It has been very properly remarked that in making an outlay upon public works especial care should be taken to select those by means of which employment might be continued afterwards. Such is especially the case in the objects of this Company, as every thousand acres of land enclosed, drained, and rendered fit for cultivation, establishes a permanent source of employment for labour. This period is, moreover, particularly favourable, inasmuch as the proximate establishment of Poor Laws for Ireland will render it essential that some new and extended channels of employment should be opened.

On Tuesday, Feb. 26, pursuant to notice, a meeting of the shareholders of the above company, was held at the office, Old Broad Street, for general business, as well as to make a further call of 1*l.* on the respective shares.

Amongst the persons present, we noticed Ormsby Gore, Esq., M. P., Major Beamish, Col. Robinson, Mr. Ashlin, &c. &c.

Precisely at one o'clock, the Right Honourable, the Earl of Devon took the chair, and after the advertisement calling the meeting together had been read, desired the Secretary to read the report of the directors, which was as follows:—

"It is with much satisfaction that the directors avail themselves of the opportunity afforded by this general meeting of the proprietors, to make a report of the affairs of the society.

"Based as this society is upon principles calculated to promote a great national benefit, and simultaneously to insure to its friends and supporters an adequate remuneration for their devotion to its interests, and for their pecuniary advances, it must be a source of gratification to the proprietors, no less than to the Board of Directors, to know that a steady, though gradual progress is making towards the attainment of those highly important objects for which the society was formed; and that further inquiries, and more extensive information have tended fully to justify the expectations of its founders.

"These inquiries have strengthened the conviction, that Ireland requires but the aid of British capital and skill, to become a richly productive country; and that with those aids, extensive tracts of her uncultivated, or unemployed, land may be readily converted into fruitful farms, and useful employment be found, for thousands of her poor, but industrious people.

"But objects of such importance and interests cannot be attained at once; time and opportunity are required, for the full development of the plan; and mature consideration is necessary, at every step, in order to render it safe to the shareholders, as well as advantageous to the public.

"The immense advantage, that must accrue, to all who embark in such undertakings, connected with Ireland, has been ably and fully developed, by numerous

official reports and valuable publications; and it has been proved, that nearly every productive branch of industry in Ireland is a new and unexhausted mine of wealth; that its waste lands, fisheries, &c., will yield to capital, perseverance and judicious management, very great and certain returns.

"Although other companies have been formed, to give an impulse and direction to these several sources of public prosperity, this society possesses peculiar advantages. The legislature has granted it an act of incorporation, conferring great and valuable privileges; it has thus laid an obligation upon this society, to which it is our duty and interest to respond; the society must not disappoint those hopes which it has created; to it have been intrusted, the power and opportunity of doing a great public service; while the proprietors are secured from individual risk. The promoters felt assured, when they solicited those privileges, that they were asking a boon for themselves, in common with others, and that the funds invested in this undertaking would yield an ample return; and, as no circumstance whatever has subsequently arisen, to alter those views, they feel confident, that their proceedings, conducted on those principles, which formed the ground of their application to parliament, will, by their result, fully justify every reasonable expectation of advantage to Ireland, and to those holding shares in the undertaking.

"The two tracts of improvable land, for which the directors had entered into conditional engagements, as stated in the last report, viz:—Sir John Burke's in the county of Galway, and Lord Courtenay's, in the county of Limerick, have been contracted for, and detailed arrangements entered into to commence active operations on or as early as the season of the year will permit. The other, from the peculiar arrangements made for letting the lands, will yield an advantageous and secure return to the society, proportionate with its outlay, from a very early period.

"In furtherance of the economical views announced, by the directors at the last meeting, the lease of a part of the society's offices has been disposed of during the remainder of the term; and, by reference to the annexed statements of account, it will be seen, that the most rigid economy has been invariably adhered to in every other department.

The balance in hand amounts to	£2,958	12	1
The shares disposed of	7,041	0	0

"But however successful may be the results arising the present undertakings of the society, and however rigid the system of economy pursued, with regard to the current expenses, it must be evident, to every proprietor that the first are in no way commensurate with the purposes for which the society was formed, nor the latter capable of reduction within such a limit as would prevent their absorbing all the profits which so small an enterprise could possibly produce. Impressed with these views, the directors have extended their inquiries, to other tenders for land; and, after mature deliberation, have selected two or three, as the most eligible for further negotiation; and it is their desire to contract with the parties owning those lands, should the preliminaries be brought to a favourable issue.

"To carry out the existing contracts and the other objects of the society, the directors have made a call of 1*l.* per share, a small sum compared with the period elapsed, since the formation of the society, but sufficient for the present, as it is the intention of the directors to proceed with prudence and caution, in all their undertakings, and not to incur any expence which can be avoided, with a due regard to the future progress and interests of the society."

The CHAIRMAN expressed himself highly gratified with the report as, by it, it was perceived, that the affairs of this society were in a very favourable state. Ireland only required English capital with which farms might be made in spots at present barren, and sufficient employment will be found for the labouring poor. It had been fully proved, that a very great advantage had been yielded, by those waste lands which had been already cultivated. Although other companies, having

the same object in view, had been formed, this company presents many advantages as it would be productive of great public good; whilst there was not the least doubt, that an ample return would be made, for the capital employed. He (Lord Devon) felt confident that their exertions would be of great benefit generally. Engagements had been entered into for the occupation of two extensive tracts of barren land, which promised to be of much advantage; and, in order that the views of the shareholders might be carried out, the most rigid economy in the expenditure would be had recourse to. The balance at present in hand, as appears by the report, amounted to 2,958*l.* 12*s.* 1*d.*, whilst the amount of shares disposed of was 7,041*l.* There was very little doubt entertained, that, as the company progressed, additional quantities of land would be taken up. It was, therefore, necessary—as it was the wish of the directors, that the present contracts should be completed, to make a further call of 1*l.* per share. He was of opinion, that an adequate remuneration would be realized, for the money advanced.

MAJOR BEAMISH moved that the report be adopted, and said he could not but offer his tribute of respect to his Lordship, and others engaged in this undertaking, for, by their endeavours, the society has been brought to its present flourishing state. By the report it appears, that for a sum which does not amount to two-thirds of the call, they have contracted for two large tracts of land, which will ensure to the shareholders an adequate remuneration, so that the main business which remained was the payment of the instalment. The report now offered for adoption completely refuted a report respecting the society which lately appeared in an influential daily paper, in which it was made to appear, that the cultivation of waste land was a visionary project. He was not disposed to undervalue either poor laws or emigration, but they decidedly fell short in their utility to this society, as it will, without doubt, afford great relief to the poor of Ireland. The quantity of bog land, in Ireland was, perhaps, greater than any might suppose, there being about 5,000,000 acres of that description of land in that country. Mr. Binns, in a work which he has recently published on this subject, and which is very interesting in its details, estimates the capital of cultivation at a cost of seven years purchase. The number of acres of bog land in Roscommon is 80,000, and all the other central parts of Ireland about 500,000 acres. One of the late assistant-commissioners on the Irish Poor Laws, Mr. Binns, has stated, that the land in Lancashire is not superior in quality to that of the bog of Allen, the latter of which has been known to produce, after having been properly drained and cultivated, 55 bushels of oats per acre, and to let for 25*s.* per acre. He (Major Beamish) had been quartered in Philipstown, situated in the centre of the bog of Allen, and he could testify that, so boggy was the land, that on a squadron of cavalry moving forwards, a perceptible motion of the earth in the adjacent surface has been the result. He had heard an anecdote related, that a squadron of cavalry having galloped down the town, all the windows in the houses were broken. He, however, could not vouch for such being the fact. (*Laughter.*) A canal had been cut through the bog, and the value of the land in the immediate neighbourhood through which it went rose, in a very short time, from one farthing to THIRTY SHILLINGS per acre. It might be objected, that the expense of cultivating the waste lands, so that they might be brought into a proper state of cultivation, would destroy all chance of ultimate remuneration for the capital employed, but, in order more satisfactorily to refute that objection, he would read to the meeting an extract from Mr. Williams's work, which states, "Our attention was attracted by a beautiful green patch in the midst of the brown heather, and, on enquiry, we found it to be a little piece of the waste land, which had been cultivated by the industry of Michael Madden. At first he manured it for potatoes, and had a good crop; he then sowed oats and grass seeds, and had excellent crops of oats and hay, the following year. This was done without any outlay of the owner's, and thousands might be made happy in the same way." The author adds, "The bright green

verdure of this little plot of ground won from the desert by the exertions of one poor man, was a beautiful sight, and gave rise to gratifying reflections." It has been given in evidence, before a committee of the House of Commons, that waste lands, in many parts of Ireland, which were only valued, previously to being reclaimed, at one farthing per acre, were let, after having been cultivated one year, at from THIRTY SHILLINGS to, in many instances, TWO POUNDS per acre. A grant of about six hundred acres of bog land was made, by Sir Richard Keane, some years since, to a few monks (who were almost without any pecuniary assistance) on which they succeeded in raising productive crops of rye, turnips, potatoes, &c., whilst an adjoining district, of nearly 5,000 acres, (which was then a complete waste), was now tenanted, and under cultivation. (*Cheers.*) Even political economists must admit, that the cultivation of waste lands must be of great advantage to all classes; and he had not the least doubt but that the application of science, blended with ability and skill, to the land would yet achieve greater wonders than have been yet accomplished. (*Cheers.*) It appeared to him that the Irish landlords were much interested in the success of this society; and so in fact they ought to be, as any employment which can be found for the Irish labourers (which the exertions of this society will greatly tend to produce) much benefit will be experienced, not only by the English farmer, but also the labourers, as it will prevent, in no ordinary measure, the flocking of so many Irish labourers into England in harvest time, as is the case in most seasons, and consequently the poor-rates will be considerably lessened. It has been stated that, as an additional quantity of corn will, possibly, be grown in Ireland, a great injury will be inflicted upon the farmers of this country by the importation hither, from Ireland, of a greatly increased quantity of corn. But such, he considered, will not be the case, for, on reference to the returns made to the Agricultural Committee of the House of Commons, it would be seen that, while the import of corn into this country from Ireland, had diminished, the price of corn in England had fallen. For instance, between the years 1835 and 1838 wheat fell from 52*s.* 11*d.* to 39*s.* 4*d.* per quarter. In the same period the price of oats in this country, rose from 18*s.* 5*d.* to 22*s.*; whilst the import of oats from Ireland increased, from 1,762,519 to 1,822,766 quarters. He would not have the shareholders entertain extravagant notions of great returns; but he felt confident that, if the affairs of the society were well managed, a very handsome profit would be realized. He looked upon this society as a national one, as it would tend to check reckless competition for land in Ireland, where, unfortunately, at the present time there was no alternative to the cottagers but land, vagrancy or starvation. Were the plans of this society carried into effect the rates would, he doubted not, be greatly diminished, and thousands of our fellow beings saved from starvation. (*Cheers.*) He moved that the report be adopted.

The report was then agreed to unanimously.

The noble CHAIRMAN stated that the directors felt thankful to all who had rendered such valuable assistance towards maturing the plans of the society. When the previous report was presented he feared that a charge would have been made of the affairs of the society going on too slow, but he was happy to state, that the directors have proceeded with extreme caution. He could assure the hon. gentleman who last spoke, and who observed upon the affairs of the company being well managed, that one great anxiety had been not to enthrall themselves with any persons on the other side of the water. That strict enquiries had been made relative to every tract of land taken by the society and that the landed proprietors were willing to let land to the society at low rents, whilst the offers of land to the company were numerous. He could not acknowledge the very able and the ready assistance which had been rendered the affairs of the company by Mr. Charles Cooper, a civil engineer, who had been conferred with on all important occasions. The company, at present, has only made two actual engagements which would, doubtless, be of benefit to the shareholders. That the plans of the society may be carried into effect money must be forthcoming, but

every future call will be made as sparingly as possible. The shareholders may depend upon the resources which will be required, being husbanded with the greatest care. Some expenses will necessarily be incurred, but they will not eat up all the profits which may be produced.

LEWIS SMYTH, Esq., wished to enquire, whether a statement which had been lately made, that a requisition had been got up to dissolve this society, was true?

The noble CHAIRMAN in answer to this question stated, without the least hesitation, that the idea had been entirely abandoned by those who once entertained it. He further observed, that the company was invested, under the act, with the power of selling the leases of improved lands, by which they will be enabled to get back a large portion of their capital and to continually renew it.

Mr. SMITH then moved that the report be printed and circulated, which was agreed to.

Sir W. SMITH rose for the purpose of proposing a resolution, which he considered would be of great benefit to all concerned—he meant the appropriation of a certain sum for the payment of the directors. He was not an advocate for any profligate expenditure, but it was obvious if this plan were adopted that the directors if remunerated, would feel a much greater interest in attending to the duties of the board for it could not be reasonably expected that gentlemen unless they had large independent fortunes, will devote a great portion of their time to the subject. He was connected with one company (the shares of which, whilst the directors were unpaid, were at a discount of thirty or forty per cent.) the affairs of which, previously to the proposal of payment, were in great confusion; indeed, twelve months elapsed before they could get fifty of the shareholders together; since, however, the directors have been paid they have had a very full board, and many of the gentlemen have attended three or four hours daily and a saving by this method of from 3,000*l.* to 4,000*l.* per annum has been effected. He, therefore, proposed that a sum between 200*l.* and 300*l.* should be appropriated for this purpose, to be distributed as the directors might think fit. (*Hear, hear.*)

Mr. LUMLEY seconded the motion.

The proposition was unanimously passed.

After a vote of thanks to the Chairman the meeting separated.

ON THE OPERATION OF THE NEW POOR LAW, AND ASSESSING COTTAGES TO THE POOR RATE.

SIR,—In the 2nd edition of my little work on "Practical Farming and Grazing" published in March, 1837, I have given my opinion on the Poor Law Amendment Act, and on subjects connected with the rural population of the country. Thinking there are many persons who take an interest in these matters, but not in the cultivation of land, or breeding, or feeding cattle, I am induced to give publicity to my opinions in this way.

I have for many years devoted much of my time in endeavouring to better the condition of the agricultural poor; to get such alterations in the old poor law, as should make the proper distinction between the deserving industrious farming labourers and those that were not so. There is no description of people, among the lower orders, so interesting to me as the truly honest and industrious farming labourers; and although there may not, in these days, be so great a portion of them possessing that simplicity of manners as there formerly was, still there are now many excellent characters among them.

I think it proper to state that before the Poor Law

Amendment Act came into operation, I fancied that some of the clauses in it were objectionable; this, joined with my disappointment in not being able to get my proposed system of labour rate established in populous agricultural parishes, during certain months in the year, which from experience, I had found the only possible way of getting the whole of the labourers employed, and correcting the unfair, and unfeeling practice, common among farmers, of turning out of their employ for the winter, every labourer they could possibly do without, to be maintained out of the parish funds; I declined being elected a Guardian the first year the Act came into operation. But finding, from Guardians, that those parts which appeared to me to be objectionable did not prove so, I have been a Guardian these two years, and can bear testimony to the extraordinary well working of the act. Had I conceived that so effectual a measure would have been carried into effect, I should not have given myself the trouble, or put myself to the expence, of endeavouring to get my system of labour rate made lawful, but being convinced, that not one out of the number of proposed alterations, which in the course of five and twenty years had been brought forward, could possibly answer, I despaired of ever seeing a fair and effective amendment of the poor laws.

My opinions on poor laws are the same I publicly expressed more than twenty years ago: which were, that all persons in the kingdom, that possessed property, should be answerable to those who had none; that if, from age, or infirmity, they were incapable of working for their livelihood, they should have relief from their parishes; and that those who were capable—if they could satisfy the overseers that they had done all in their power, but could not procure work—their parish should be bound to find it for them, or to give them such relief as would keep them from starving; that if the laws did not afford them this protection, they could not justly be called upon to uphold the laws by serving in the militia, or in any other manner. The Act of Elizabeth gave them this protection. The Poor Law Amendment Act has not taken it away. This Act was framed, and passed to obtain these several objects. To lessen the amount of the poor rates, which, from the mal-administration of the poor laws, had become a great national burden, pressing most heavily on the occupiers of the land. To prevent the numerous frauds and impositions that had so long been practiced to obtain parish relief. To take into the work-house, and there set to work, the able-bodied who applied for relief, and who had no means of subsistence without it. To lessen the greatly increased and increasing moral crime of bastardy. To provide a proper, and comfortable asylum, for the destitute, aged, and impotent. Excepting those who are decided opponents of the act, and neither made fair inquiries, or have taken the trouble of looking into the working of it, all persons residing in the agricultural districts of the country admit, that all the objects sought for, have been attained. The difficulty of imposing on a board of Guardians being so well known, few have attempted it. The able bodied seek more after work; few therefore, compared with former times, apply for relief. The cases of bastardy, applying for relief, are less numerous. The destitute, aged, and impotent, are taken better care of in the union workhouses than they were in the old parish work houses.

During the war, and high prices, rents were punctually paid, farming labourers were fully employed, few complaints were made, therefore landlords knew very little about the poor. But the war ended

prices of produce reduced to little more than one half, soldiers and sailors returned home, full employment for the labourers of populous agricultural parishes could not be found. Tenants, then being full of complaints, landlords felt the necessity of making themselves acquainted with the state and management of the poor on their estates. Being at that time often in London, and at the House of Commons, when matters connected with agriculture were brought forward, and being known to many members, I had much conversation with them, and truly surprised was I to find them so lamentably ignorant on a subject in which they were so deeply interested. Most landlords being now members of a Board of Guardians, are as well acquainted with the present state of the agricultural poor, and as capable of judging of the management and proper relief to be afforded in all cases, as any old vestrymen.

Many county magistrates, some years ago, were very liberal with other people's money, and ordered relief in a most unwarrantable manner. I will state one instance of this, and have no doubt but many such occurred in different parts of the country, at that time. Two friends of mine of the neighbourhood of Northampton, one a county magistrate, met one day, when shooting, with a labourer, long known to the magistrate, who accosted the man thus:—"John I have not seen you for a long time how do you get on in the world now?" The man said "pretty well, Sir, I don't complain, I get — shillings a week for cutting this gorse and underwood, and the parish, on account of my family, allow me — shillings a week more" (I forget the number of shillings.) The magistrate then said "the parish do not allow you enough; do you come to me at the Record Room on Saturday." The man went, and there got an order for the overseer of the parish to pay him three shillings a week more.

Finding in the winter of 1834 that one thrasher could not supply the cattle in my farm-yard with a sufficient quantity of straw, I sent for a man of the parish, who I knew was out of work, and who had, like my thrasher, four children under twelve years of age, but who was subsisting on the parish allowance ordered by the magistrates of the division of the county. He was with me about three weeks thrashing with my man by the quarter. The common wages at that time were from nine to ten shillings a week; these men earned each, eleven and sixpence. The man on leaving me, told my foreman that my employment had been a loss to him; for when he did not work, he received the parish allowance which was eleven and eight pence per week. For seven months, or more, out of the twelve preceding the passing of the Poor Law Amendment Act, this man had been receiving this allowance, but since it came into operation he has contrived to be in constant work. This Act not only puts an end to such premiums for idleness, but will in time increase the morality of the rural population; for able bodied labourers out of employment naturally get into bad habits.

In times back there was an attempt to circulate the doctrine contained in what was called the Spencean System: that the land was the people's farm; that the owners of it were only stewards for the time being. Absurd and monstrous as such a doctrine was under the administration of the old poor laws, something very like it was acted on, for in many parishes the poor rates were equal to the rent of the land; and, when the price of produce was so very low, the entire payment for the occupation of the land in some parishes, was the poor rates.

As the law of settlement by servitude is done away with, it is advisable that landlords should urge their

tenants to take farming boys into their houses, as was formerly the general practice; this would tend much to correct the great evil of such very early marriages as have of late years taken place in agricultural parishes, from the youths being under no controul after six o'clock in the evening, consequently, from an unrestricted intercourse with the young females, the greater part of the marriages which of late years have taken place have not really been of men and women, but of boys and girls, who, relying on the parish funds, never had one thought how they themselves, and the children they might have, were to be maintained. I know not whether there are such instances in manufacturing parishes, but in the agricultural one in which I live there have been grandfathers at eight-and-thirty. It cannot, however, be denied that farmers in general for a length of time acted very unfairly toward single men, in not giving them more than two-thirds of the amount of wages they gave to their married labourers, although many of them were able, and obliged to do as much work. The Poor Law Amendment Act will in future lessen the number of these too early marriages, and thus effect a great public good, and prevent much individual misery. No young man henceforth will be driven to the wretched alternative, as many without money have been, of either marrying a girl they disliked, or going to jail. The act will also produce good effect in the conduct of females, from their knowing that young men can no longer be entrapped into marriage; they will also know that should they have an illegitimate child it will be an impediment against their being married to some other man, who would have to maintain it; and as the crime of bastardy will henceforth bring misery to the females and their parents, they will not, probably, be so indifferent about it as they have of late been, but will endeavour to impress on the minds of their daughters the misery and shame they bring on themselves and their parents by committing it.

Previous to the Poor Law Amendment Act, I was a strenuous advocate for the establishment of my system of labour rate, which I was quite sure, under the old system of poor laws, was the only plan that could be devised to get the whole of the labourers of this populous parish into employment. Had I conceived that so effective a measure as the amendment act was likely to be passed, I should not have put myself to the trouble and expence I did in endeavouring to get the labour rate established; but having seen in the course of twenty years, many proposed alterations of the poor laws, and never thinking that any of them could possibly answer, I despaired of ever seeing coming into operation a judicious, fair, and effective amendment of the poor laws. From feelings arising from being thwarted in these endeavours, and from fancying there were objections to some of the enactments in the new law, I declined the first year being elected a guardian. For two years I have been a guardian of the Brixworth Union in this county, and can bear my testimony to the well-working of the Poor Law Amendment Act. When attending the meetings it has often struck me with surprise that the act should, without the necessity of alteration, appear fully to meet most of the cases brought before us, and I can, as a practical farmer, contradict in the most positive terms, the assertion that has so often been made, that it tends to lessen the wages of agricultural labourers. This is only one of the many unfounded assertions against the measure. Such affirmations it is easy to make, but though they have no foundation in fact, it is not so easy to remove the impressions they may have made on the minds of those who are not thoroughly acquainted with the subject. The decision of a board of guardians are much more likely to be respected by the applicant for relief, than the decisions of a parish vestry; they come with greater authority, and from those who, it must be well-known, cannot be biassed either by motives of parsimony, or feelings of personal favour or dislike towards those who apply. The greater part of the applicants to justices for relief, were those least deserving of it. Such now well know that it will not answer their purpose to go to a board of guardians with a fabricated tale. It is to be hoped that the ex-officio guardians will continue to give that regular attendance

at the board as they hitherto have; for the well working of the act much depends on the co-operation and attendance there of the influential persons of the districts. All occupiers of land are much interested in the measure, but many owners much more so; for had not some check been put to the old system of poor laws, the whole value of the land in many parishes would, in time, have been absorbed in poor rates. I thought at the passing of the act, and still think, and now find it is a prevailing opinion that the board of guardians should have a discretionary power to allow, in certain cases, out-door relief, in bread only, to an able bodied man with a large family, who can satisfy the board that at certain times it is not in his power to earn enough to support his family. The assistant commissioners seem to be of opinion that farming labourers ought to enter into clubs for medical aid when needed, that only the really destitute should have the gratuitous assistance of the district apothecary; my idea is, that there is no kind of relief that should be dealt out so liberally as the medical; there are many farming labourers who have brought up families without parochial relief which they would have been unable to have done, had they contracted a debt to an apothecary, their wages being only adequate to procure necessary food, clothing, and fuel, and to pay house rent.

After having many years done all that so humble an individual could, to ameliorate the condition of the deserving agricultural poor, it would be strange indeed, if I now advocated a measure that I knew was likely to bear hard upon them. On my conscience I believe that the Poor Law Amendment Act, with some trifling alteration, will benefit all who have just claims for relief; that those only will be affected by it, who for their maintenance relied more on the parish funds than on their own exertions! and that this will be evident to all well disposed industrious agricultural labourers. But how the act is suited to manufacturing districts, I can form no opinion. None but those who have occupied land in populous agricultural parishes can be aware of the disagreeable matters which used to come under the notice of parish vestries; there being no uniformity of opinion, it was seldom that anything effective was agreed on, and when there was, it was only adhered to for a short time. For many years I attended such vestry meetings in the parish of Moulton, and I left them regretting that I had made a purchase in the parish. Such disagreeable and ineffective meetings are now happily at an end; and, as few persons have for a greater length of time given them themselves more trouble about their parish poor, few have greater reason to rejoice in the amendment of the poor laws.

As the generality of farmers have, for many years past, been paying distressingly large sums for the support of the poor, and have seen that all has been received without the least idea of thankfulness, it cannot be surprising if they should not have taken that interest in their village poor, which otherwise they would have done; but now, when in many parishes the poor rates are reduced nearly one-half, and it is believed a better spirit exists among the poor, it may be expected that farmers, their wives, and all persons residing in the country, who have the means of doing good, will cheerfully look into the condition of their poor neighbours, and render them all the little acts of kindness in their power. Labourers whose families have been clothed in rags, whose cottages have been in the most wretched filthy state, have often excited the pity, and obtained the charity of the benevolent; when at the same time other labourers of the parish, earning exactly the same amount of wages, having the same number of children tidily dressed, and their cottages kept clean and neat, have often escaped the attention of the benevolent; and thus have the most deserving been overlooked. Linen clubs well managed, and aided by annual subscriptions of the owners and occupiers of the land of the parish, have been found to do infinite good. Whether it is common in villages throughout the country, I know not, but in this, and in many others in the country where the cottages belong to different persons, most of them have but one sleeping room; so that grown up sons and daughters, father and mother, all inhabit the same room. Should this be the

case where the cottages belong to those who own the whole parish, on this fact being made known, such persons, it is hoped, would take the necessary steps to remedy so great an evil. Much good may be done in a village by a lady who has obtained such a knowledge of medicine as to be enabled to administer it in all common complaints; but more particularly to children, who may often by timely assistance be cured before the village apothecary is able to attend to them. Much to their credit, I do not believe that the ladies of England in any former times ever took so much interest in the poor, as the ladies of the present day. In many villages the occupiers of land purchase coals in the summer when they are cheap, fetch them to be stored up in the village, and sell them to the poor in the winter at cost price. This practice should be general. Most agricultural labourers are now accommodated with small allotments of land, such allotments ought never to be larger than the labourer and his family can cultivate without interfering with his regular employment.

Within these few years, great improvements have taken place in ecclesiastical affairs. I have heard able-minded and most anxious supporters of the established church declare, that in their opinion, had not such taken place, there would have been by this time very serious apprehensions entertained as to the permanency of the establishment. Young men deficient in the necessary qualifications to become good ministers of the church, have not, of late years, been able to get admitted into holy orders; the generality therefore, of those who have been ordained, appear to be fully sensible of the important duties they have undertaken, and therefore are likely to do credit to their sacred profession, become the means of increasing the numbers of the established church, of good Christians, and thus adding worthy members to the community. The rural population would be improved, were there more of the old English country gentlemen residing on their estates. It cannot be imagined, that in the term old English gentlemen, I could mean the old race of free living, ill-educated, un-informed sporting squires of former days, such would be a sad substitute for the many well educated, well-informed, useful members of society, the resident country gentlemen of the present day. The habits of village poor are more orderly where there is an influential, good, moral person residing among them, whose displeasure they are fearful of incurring. Where there is such a person in the village, and there is also a pious, pains-taking, officiating minister, although, from the defect of human nature, there may be some bad individuals, it is pretty certain that the chief part of the poor of such a village will be orderly, good people.

There needs at this time an alteration in the law regarding assessment to poor rates. In the populous parish I live in, those who had no other means of subsistence than what arose from their wages as labourers, have never been assessed. It appearing that if any person in the parish could point out any property that was not rated, he might object to paying his rate. Every inhabitant has been assessed within the last month, excepting those whose names appeared on the church door as having, in the course of the last quarter, received parish relief, so that many, who have from good conduct, been in constant employment, have been prudent, good managers, besides which, have spared from their wages, monthly payments for their benefit clubs; these poor persons, as the law is, because they have been so prudent, are to pay poor rates. It must appear strange to every one, that the poor should be assessed to pay the poor, and therefore, as I feel assured that all persons must admit that the law needs alteration, I propose the following:—That the renters of tenements not exceeding three pounds per annum, be not assessed to the poor rates; that the rates levied on cottages rented above three pounds, and not above five pounds, be paid by the owners of the cottages. It has been most distressing to the magistrates assembled in petty sessions, to inform the chief part of the poor people who applied to be relieved from the rate, that it was not in their power to relieve them from it. This of course, causes much dissatisfaction among the poor. As numerous petitions will be forwarded to both houses of Parliament, there is little

doubt, but that before the expiration of the session the law relating to assessments of poor rates will be altered.

For many years past I have written under various signatures, in different periodical papers, on the rural population of the country. At my advanced age it is not my wish to write again for publication, unless another edition of my little work on "Practical Farming and Grazing" should be required.—I remain, Sir, yours,
C. HILLYARD,

PRESIDENT OF THE NORTHAMPTONSHIRE FARMING
AND GRAZING SOCIETY.

Thorpelands, near Northampton, Feb. 17.

ON THE TREATMENT OF SHEEP WITH A VIEW TO THE IMPROVE- MENT OF THE FLEECE.

BY MR. JAMES DICKSON, EDINBURGH.

[The premium of Twenty Sovereigns was awarded
for this Essay, by the Highland Agricultural Society.]

As I conceive that the improved Leicester breed of sheep is the most valuable in Great Britain, I shall, in the first place, confine my remarks to them, and show how they should be treated throughout the year, in all states, to insure the greatest weight of mutton with the finest quality of wool.

1. TREATMENT OF TUPS FROM WEANING TILL AGED.—There is a material difference to be observed in the treatment of Leicester tups, according as they are intended for sale or otherwise. When intended for sale or hire, the young sheep require much higher feeding than when only intended for the use of the breeder's own flock. It is then not so necessary to have young tups so full of condition as when they are to be shown to the public, when their points and wool should handle, and appear to the best advantage. For the latter purpose, all the tup lambs, after weaning, should be put on good clover foggage or other rich feeding pastures, and for a time, as soon as the harvest admits, on clover stubble, where they may be kept till the 1st of October. If the weather is dry, turnips may be given them on the stubble; but if wet, a clean grass-field should be selected for the purpose of beginning them with turnips. A few old sheep should be put among them to retain them to break the turnips. As soon as the frost sets in, they should get clover hay in small racks; white turnips and hay will suffice till about new year, when they should get cut Swedish turnips, given them in boxes. A small quantity of bruised grain, say $\frac{1}{2}$ lb. for each sheep per day, should also be given. On all these they should be kept till April, great care being taken to observe regularity of feeding and in affording shelter. About 1st of April put them on new clover, continuing the cut Swedes and bruised grain till 1st of May. They are then clipt. Unless the pasture is of rich feeding quality, continue the bruised grain till the time of sale or hire, which may be about the latter end of September. In this treatment, Leicester shearing tups will show and handle well. If, on the other hand, the breeder intends them for the use of his own flock, I should not recommend such high feeding. The same feeding as the fattening wether hogs receive should make them sufficiently strong and vigorous when put to the ewes about the middle of October, that is, when they are about nineteen or twenty months old. After

they have finished the season with the ewes, which should never be later than 20th or 25th of November, they should be immediately put on full turnips, either netted on the land, or given on a lea-field, a little hay being also given them; and in the following spring put on good feeding pasture. Leicester two-year-olds, or aged sheep, feed so fast that it is not necessary to give them grain or extra feeding; as by doing so, they would become too fat and useless. Two-year-olds and aged tups may be kept together; but tup-hogs should always be kept by themselves. No tups should be used above five or six years old, unless a first-rate sheep, as they get small stock. A shearing tup will serve eighty ewes with safety; but fifty or sixty are enough for an old sheep; and the less travel any tup has, the more ewes he will serve.

2. TREATMENT OF LEICESTER EWE-LAMBS, FROM WEANING TILL THEY ARE PUT TO THE TUP THE FIRST TIME.—From weaning, ewe and wether lambs should have the same treatment till 1st of October, when the latter are put to turnips, on clean feeding pasture, clover foggage and stubble. The ewe lambs intended for to be kept stock may then be selected with safety, as their points and quality of wool will be fully developed. After selection, they should be kept on good pasture till November, or longer if the weather is fine, but whenever frost or bad weather sets in, they should be put on white globe turnips till February, which if sliced so much the better. After this, should the white turnips be spoiled by frost, or run to seed, a few cut Swedes will keep them growing and preserve the lamb-layer or flesh, which should be studied to be preserved in all young sheep. About the beginning or middle of April, fresh grass of two or three-year olds will suffice, for it is unnecessary to give ewe hogs the best feeding pasture. By this encouraging treatment they will be in fine condition, good substance, and desirable size, at clipping will cut a sound fleece, and, with similar treatment through the summer, will reach the tugging season in good trim.

3. TREATMENT OF EWES FROM THE PERIOD OF TUPPING TO LAMBING.—For three weeks or a month previous to ewes and gimmers being tupped, they should be kept on good pasture or rape, the gimmers being either mixed with the ewes, or kept separate. I would recommend them being kept separate, as tups can then be selected to suit the peculiar points or condition of both ewes and gimmers. The better keep they both have at this time, the more equal and sure will be the conception, which always not only insures a good crop of lambs, but early and regular lambing. Many breeders, knowing the beneficial effects of good keep at this time, although attended with the dangers of making ewes too fat, give them rape or turnips, and fine crops of lambs have thereby been produced, particularly from feeding with rape. The late Mr. Wilson of Preston, Berwickshire, generally pursued this plan, and never failed having great crops of lambs, and regular and early lambing; frequently more than one-half of his ewes bearing twins, and part three and four lambs. Mr. James Read, Drem, East Lothian, tried the experiment of feeding with rape, and found the ewes have a larger crop of lambs than when tupped on grass. Unless the weather is very severe, ewes may be kept on pasture from being tupped to the middle of February, if it is in such a state as to keep them in fair condition. They should have turnips for at least a month previous to lambing, if the pasture has been eaten bare;

and if the weather is severe through the winter, it will be necessary to give them both turnips and hay to carry them through to the lambing time in fair condition, but they should by no means be too fat, as high condition is almost as dangerous to ewes when about to lamb, as too lean a condition. Their condition should be such as to make them flush of milk when they drop their lambs about the 10th of March. On dry land they may be netted on turnips previous to lambing; but on wet, they should get them on a grass field, as ewes heavy in lamb are apt to over-reach themselves when sinking deep into the land, and in consequence throw their lambs. Shepherds should be very careful of ewes at this time, when the most laborious and irksome duty they have to perform is about to commence. If appropriate preparations are then neglected, great loss will be incurred in lambs, and most probably also in ewes. The farmer and shepherd should consult together some weeks previous, and make arrangements for the accommodation of both ewes and lambs. The first should be the saving of a sheltered, dry, old grass-field, with a southern exposure, in a rough state of pasture, during the winter, as near the steading as possible. Into this the ewes should be put at the commencement of lambing, and plenty of turnips given them on the grass; temporary straw-cots should also be erected in the best sheltered corners of the field, well bedded with dry straw, in which the ewes and new dropt lambs may be kept confined for a day or two, or longer if the weather is bad. Twin lambs should be soon removed to new grass, where temporary cots should also be erected for shelter, and turnips given the ewes on the new grass. Ewes with single lambs may be kept on older pasture, and on turnips, Swedish or the best kind of Aberbeen yellow being the most nourishing for milk, which should be cut and given in boxes. If a supply of milk is not kept on the ewes for the lambs, the latter will become stunted in their growth, and from which check they will never recover. If ewes are not full of milk at and after lambing, and should the weather be severe, many lambs will certainly die, but with proper shelter and plenty of nourishment, it is wonderful how young lambs withstand the inclemency of the weather. Besides food and shelter, it is the duty of the shepherd to tend them night and day, as Leicester ewes, when lambing, must never be left alone, for few of them lamb safely without assistance, so the closer the flock are kept together, they will be more under the eye of the shepherd. Assistants, according to the size of the flock, should be provided for the shepherd, besides powerful lanterns for seeing the flock, when going through them during the night.

There are many other duties besides tending which the shepherd should perform. Should a single lamb die, a new dropped twin must be taken away from another ewe immediately, and put to the bereaved ewe, confining them both in a narrow dark place. The skin of the dead lamb should be rubbed over the head, and even sown over the body, of the fostered lamb, to imitate the smell of her own lamb. The ewe being full of milk, will take the substitute in less than twenty-four hours. As soon as she becomes kind to it, they may both be turned out among the flock. The shepherd should take all superfluous wool from the udders of the ewes before lambing, and observe after lambing, that the single lamb sucks both teats, for if the ewe is full of milk, and this circumstance not attended to, only one of the teats will probably be sucked, and the other of course

become blind, and hence the usual cause of ulcerated udders. Lambs should be suckled immediately after being lambled, and kept dry, in the cot from rain. If they get wet, with an empty belly, stiff joints and other diseases almost instantly attack them. It very frequently happens that gimmers, and very high bred Leicester ewes have little milk at lambing. This being the case, the shepherd should always have plenty of warm cow's milk at his command, in fact, a good milch cow should be kept for this purpose, where there is a large flock of ewes, to which he can have access by night or day, as a little warm milk and warmth will save a lamb when nothing else will. Ewes in this state, or with weakly lambs, should be placed in a dry warm court or house in the steading, till they recover their milk, or the lambs their strength. The tup lambs should be castrated in fresh weather, when eight or ten days old, as it is dangerous for them to be cut in cold frosty weather. The tails of both wether and ewe lambs are docked at this time. Lambs for tups are usually kept from ewes selected at tugging, having the most perfect symmetry, best wool, and good handling. These are served by the best tup of the flock, or probably by a hired one from another flock. The breeder sometimes keeps a few fine looking tup lambs from other ewes, but this is not a safe method of selecting tup lambs, and their pedigree may not be so correct. As the lambing season advances, the ewes with twin lambs are distributed over the new grass fields, and those with single lambs over the older pastures, but if all enjoy the new grass, so much the better; to which should be added, if possible, through March and April, if the season is backward, cut Swedish or yellow turnip in boxes. But if there is plenty of early grass, there is less occasion to give them turnip after March. It should, however, never be forgotten, that good keep will make good sheep and a valuable fleece; and that if lambs are well attended to for the first six weeks, their constitution will be strong, and they will be supplied with lair juices, and furnished with substance, and which treatment, if followed up for the remainder of the season, will ensure superior carcass, tallow, and fleece.

4. TREATMENT OF EWES AND LAMBS TILL WEANING.—Ewes and lambs should be continued on good pastures till weaning time, about the middle of July; Leicester lambs are occasionally weaned before this, in the first week of this month; but as Leicester ewes have great aptitude to fatten, the draft or cast ewes have sufficient time to fatten on good foggage or pasture, before the end of September, and the flock ewes be in excellent condition before the tugging season in October.

From May to weaning, the washing and clipping of the sheep occupies a great part of the shepherd's attention. The washing of ewes should be performed with the greatest precaution, as much serious injury may be done them by heating in driving to the washing pool. The lambs, too, being taken away for the time, makes the ewes irritable on the road. Farmers should themselves always superintend the washing and clipping, and be assured of the security of the lambs in the absence of the ewes.

5. BEST MODE OF WASHING SHEEP.—It is a question whether the washing of wool is best performed on or off the sheep's backs. I am of opinion it is best done on the back of the sheep; and the fact that the wool of Leicester sheep is almost unsaleable when clipt unwashed, shows that the wool-staplers are also of the same opinion. I

have known many lots of fat sheep clipped unwashed, before being sent to London, and other markets, and their wool sold with difficulty at a reduced price, whereas when washed, it sold very freely. Neither stapler nor manufacturer will buy unwashed Leicester wool by weight but at little more than half the value of well washed, the weight of unwashed being fully a third heavier than washed. But I am compelled to say, in accordance with observation, too much of it is washed in a very slovenly and careless manner, and too little attention bestowed on preparing an article of so great national importance. The washing of sheep in the south of Scotland and north of England commences about the 1st of May with Leicester tups, fat wethers, and hogs, and with ewes from the 1st to the middle of June. A clear running water with a clean gravelly bottom is best suited for the washing of sheep, its depth should be about 2½ feet, and as broad as to permit three or four men to stand about 6 feet apart, the outer men being about the same distance from the sides. When a natural rivulet does not afford such accommodation, a damming will be required to be made across it to retain the water to a proper depth and breadth. The sheep should be inclosed at one side of the water by nets or hurdles, so as to be easily laid hold off, and handed to the first washer; they should be very slowly driven from the pasture to the inclosure prepared for them at the water-side, in the cool of the afternoon, after the water has been heated by the sun. When the business begins, the sheep should be gently handed, one by one, to the first washer in the water, who turns it on its back in the water with the head out of it, taking it by the near fore-leg with the left hand, and by the wool on the neck by the right, and swilling it to and fro and up and down in the water for a short time; he then hands it to the next washer, who goes through the same process, and so on to the last washer, who should be the shepherd himself, and who must be very particular in squeezing the wool on the back and sides till thoroughly rinsed. He then turns it over in its natural position towards the opposite side of the water it was taken hold of, plunging it over the head, and causing it to swim to the shore. On landing, the water runs from the wool, and in a little time the sheep shakes off the remainder as forcibly as if twirled from a mop. By this process the wool will be very well washed. If the flock is large, three or four men should always be in the water, and a change of men take place every hour. The sheep should be very slowly driven to a clean pasture-field, free of broken banks, the rubbing against which would again soil the wool. If immediately clipped when dry, the wool feels hard. A short period of six or seven days should elapse to permit the return of natural yoke into the wool, when it will feel more smooth and soft, and weigh more; and in this state it is better liked by the manufacturer, for whom I have purchased wool on commission, besides growing it on my own account. I am of opinion that some improvement might be made in washing wool on the sheep's backs. I think the use of soda would be of advantage. This might be done by placing a large tub at the water side filled with water, holding a solution of soda, into which every sheep, before being handed to the first washer, might be immersed. The soda, I have no doubt, would loosen the yoke, and facilitate the cleansing of the dirt from the wool. The expence of this operation would be trifling, and the experiment is worthy of

trial. Besides washing benefitting the wool, I consider the sheep themselves are the better for it. We have only to observe how clean and comfortable a sheep looks after being shorn of a clean washed fleece, and, on the contrary, how dirty and uncomfortable it looks after being shorn of an unwashed fleece, to be sensible of the benefit of washing. It is also impossible to clip an unwashed sheep neat or close, and one dirty sheep will spoil the shears more than a number of clean.

6. BEST MODE OF CLIPPING THE WOOL OFF SHEEP.—Wool must be ripe and ready to part from the skin before it should be taken off; nature thus preparing it for the hands of the shearer. The natural symptom of shedding the wool depends much on the feeding; some high fed sheep will be ready for clipping in March or April, whilst others not well fed, will not be ready till June. The mode of clipping sheep was performed in a very awkward and clumsy way in the Border counties, till within the last sixty years. The new and much approved system was introduced into Northumberland by the late Messrs. Culleys of Akeld and Wark, who were also the first to introduce the improved breed of Leicesters into that county. The old mode consisted in tying the feet of the sheep and laying them together on a stool, and clipping almost at random, in a longitudinal direction, making very rough work, leaving, on an average, fully an inch of wool on the skin, and in some places more than two, and great tufts hanging in all directions. This awkward and unprofitable method was often performed by women, and is still continued to be practised in many parts of Scotland. The method introduced by the Messrs. Culleys, and now practised in all the well-managed sheep districts in Scotland, is what may be called clipping in the annular or circular form. The sheep is held loose, the clipper placing it on its rump, and shedding the wool on the under part of the neck, commences clipping round the top of the neck to the top of the shoulders; he then clips the belly down to the extremities of the hind-legs, shedding the wool to the right and left; he then clips from the thick part of the near fore-leg, continuing in parallel rings over the shoulder, ribs, and loins, up to and along the top of the back; he then drops the sheep on its side, and bending his knee over the back part of its neck, rests the toes of his left foot on the ground, in the inside of the neck below the jaws. This position is easy, both for himself and the sheep. He continues the circular form over the hooks, as he continues to pass over the hip or thigh, bringing the rings neatly up to the line of the back-bone. The rings or shear-marks are generally from a-half to three-fourths of an inch apart, and about one-third of an inch from the skin. The near side being thus finished, the clipper raises his knee from the ground, gets on his feet, and the sheep again set on its bottom, when the same process is repeated on the off side as was on the near, making the rings join neatly on the top of the back, as if the shears had passed over the back with the same hand. Some good clippers indeed go right round the back without stopping, but the former is reckoned the neatest plan. Some clippers use the right and left hand successively, and others the right hand alone, but it is immaterial which, provided the work is neatly and well done. The hand which for the time is unemployed should be laid flat on the bare skin, to draw it towards the clipper; the tighter the skin, and the clipping hand held nearer the skin, the neater the work.

The wool should always be carefully collected together, to prevent the sheep breaking the fleece with its feet, in kicking or striking, which some sheep, under the thralldom, do. A clean lighted place, and sheltered from rain, should be selected to contain the sheep, and clip them in. The clipping floor should be made soft with straw, and covered with a strong canvass barn-sheet fastened tightly down. A woman or boy should be employed among the clippers, removing any droppings from the sheep, sweeping the sheet with a besom, picking up locks of wool, and carrying away the fleeces to be rolled up. To clip twenty Leicester hogs or fat sheep, or thirty ewes, well per day, is fair work for one clipper.

7. BEST MODE OF ROLLING UP, AND PRESERVING THE FLEECE FOR A LENGTH OF TIME.—An experienced person should always be employed to roll up wool. The first process is to clip all hardened dung suspended from the tips of the fleece, leaving nothing in the fleece but clean wool. The observance of this precaution is not only the best policy for the farmer, but is his safest course, as a high penalty, by act of parliament, may be levied against all persons wrapping up dirt in wool. This is a wise regulation, as it is quite impossible for a wool-buyer to examine every fleece separately, which he may be inclined to purchase. A clean and convenient place near the clipper should be chosen for the rolling up the fleeces; a large square board or plain deal door, raised about two feet from the ground, answers well to spread the fleeces on. The inside of the fleece is placed next the board, then the belly and other straggling portions of it are thrown into the inside of the fleece, the breadth of the rolled fleece being made according to its size. A large heavy fleece requires to be rolled up about thirty inches in breadth, whilst a small one need not be more than sixteen to eighteen inches. The rolling should commence at the hinder part of the fleece, taking care to keep it uniform in breadth in rolling up, and pressing it rather firmly. When it is rolled to the shoulders, draw out the neck-wool and twist a band from it, of sufficient length to go firmly round the fleece and fasten the end into the band. A fleece thus rolled up may be carried, stored, packed, unpacked, and lodged in the warehouse of the stapler, without being broken; but too many fleeces are put up in a loose careless manner, and easily broken and injured. The rolled fleeces are then neatly stored in the wool-room, every description by itself, as it comes to hand. Some wool-growers practice the unavailing expediency of placing the best fleeces in the front of the store, no doubt with the view of making the whole store appear as if it contained none but the first-rate wool; but the stapler soon discovers the deception, and, of course, is induced to turn over more wool than he would otherwise do; and should he not purchase it, the owner is put to much unnecessary trouble in replacing it in a favourable position for the next customer.

Wool should be kept in a dry, close place, and however close it is kept, if dry, it will increase in weight, and not deteriorate in quality. It will keep for years quite safe, if vermin is precluded from it, particularly rats, which are fond of making their nests in it. It will even keep a long time in the pack without injury, if kept dry. Granaries near slate roofs are not good places for keeping wool, as in them it becomes hard, and loses in weight. If kept for any length of time, it

will be necessary to turn over the fleeces at least every six months.

8. THE BEST METHOD OF PACKING WOOL.—The first consideration in the packing of wool, is the quality of the pack-sheets, which should be strong, whole, and sound. The sheets should be slung by ropes near the wool store, from the beams of the house, or other fixtures. The ropes are fastened to the two open corners of the sheet, in each of which a stone is placed, and around which the ropes are fastened in loops. When thus slung, about eight or nine inches from the ground, two men enter into the sheet, and commence laying a row of fleeces across the bottom, from one close corner to the other, always taking care to have the corners and ends tramped hard as the sheet fills. The pack should hold about 16 stones of 24 lb. each, or about 27 stones imperial, if well sowed up at the top. If the sheet has thus been firmly packed, it will reach its destination and be unpacked without a broken fleece; but if loosely and confusedly packed, the fleeces will come out broken and bruised, and will thereby incur to the stapler a great deal of trouble in sorting, and even when sorted, they will never reassume the natural appearance they had before being rolled and packed; and as the stapler has all his sorted wool to expose for sale in his warehouses to his customers the manufacturers, it is the readiest way for growers to obtain the highest prices for their wool, whether in brisk or flat markets, to be particularly attentive to its management in all the different stages of washing, clipping, rolling, storing, and packing. Growers of wool may depend upon it, that wool-staplers are very intelligent men of business, and there is perhaps no class of men who require and exhibit more judgment and discrimination in dividing the different qualities of the article they deal in. Besides being a thorough judge of wool being well washed, and well managed in every respect after being taken from the sheep's backs, a wool-stapler can judge whether the sheep whose wool he inspects has been well or ill fed, and indicate the defect at first sight, although it may not be perceptible to another person not a judge of wool. If sheep have at any time during autumn, winter, or spring, been pinched of food for even a few days, the staple of the fleece becomes weakened at the very place where its growth has been checked for want of the requisite nourishment. The defective place may be detected by the experienced eye, but by any one taking the staple by the ends, and giving it a sharp pull asunder, it may certainly be detected, by its breaking or drawing out smaller at the very place or places where the nourishment was wanting when those places were next the skin. I have seen a staple give way in three or four different places. As the quality of Leicester wool is chiefly valuable for its length answering the purpose of combing, and of course making all those kinds of woollen manufactures which are made of combing wool, and for which no substitute can be found in wool of any other length, it is clear that it is the growers' interest to preserve the uniform strength of the staple by uniform good feeding. Leicester wool, to be valuable, should therefore be long, strong, fine, and soft, and to obtain with certainty all those requisites, the sheep should be uniformly well fed, and the wool, after clipping, managed in the best manner in every respect. The want of feeding, even for a single week, may not only deteriorate the carcass,

but lessen the quantity, and lower the quality and value of the fleece, 20 to 30 per cent.

9. TREATMENT OF EWES FROM THE WEANING OF THE LAMBS TO THEIR OWN TUPPING.—In weaning lambs from the ewes, they should be removed as far asunder as to be beyond the hearing of each other's bleatings. The ewes must be milked three or four days, taking care they be not heated in the process. The milkers should draw every teat clean, only once a-day, for oftener than that would retain the milk on the ewes almost as fully as if they were sucked. At the last time the milk should be drawn very clean off, when the udders will soon get dry without injuring the ewes. Perhaps it might be proper to allow them to retain their milk for nearly two days previous to the last milking, by which I am sure they would get sooner dry. As soon as the ewes are dry, the old ewes which are to be drafted, should be taken from the flock to be fattened. Leicester ewes being sold at four years old, the draft is the fourth part of the ewe flock. The gimmers supply the place of the old ewes. The draft ewes should then be put on the best feeding pastures, on clover foggage, if any to spare, and if well fed will be fit for the butcher by the end of September, good ewes usually averaging about 20 lb. per qr.; but if kept till New Year on rape or turnip, I have known the best weigh 28 lb. to 30 lb. per qr. They should never be retained later than Candlemas, as I have observed they improve in no respects after this season. The regular ewe flock may be kept on their summer pastures till the middle of September, when they should have fresh grass or rape, to prepare them for tupping, as has been already pointed out; but should they show a great predisposition to fatten, they should be kept on inferior pastures from the weaning of the lambs until near their own tupping, for I have often known ewes become so fat in this short time, as to prevent their conceiving. The ewes of Mr. Thomas Darling, West Fortune, East Lothian, get so fat, that he is obliged to keep them on the worst land of the farm. They were kept this year on hay and water in the court-yard, and still they are full of condition.

10. TREATMENT OF WETHER LAMBS, FROM WEANING TILL THEY ARE SENT FAT TO MARKET.—Wether lambs should be put on the best pasture immediately after being weaned, and continued thereon till about the 1st of October, when they should have turnips in a lea-field for the first month. A few old sheep among them will teach them to break the turnip. They may then be netted on the turnip land, or continued on the lea. If they are netted on, it should be, in the first place, on the driest and best sheltered spot, and, if possible, with a southern exposure, in order to have it always to resort to in case of stormy weather, as they proceed along the field, in regular breaks of fourteen days' feed. A new break should be given when the former one is half eaten, the bottoms of which should be picked up, and the sheep will return and eat them up clean. They may continue on white globe turnip till the New Year, after which they should have cut Swedish in boxes. The shepherd, and a boy or woman with an improved turnip cutting-machine, can cut from 300 to 400 hogs. Straw is usually given when on turnips, but when the weather is in the least severe, clover hay should be given, and continued through the winter. The cut Swedish turnip and hay should be continued till 1st April, when they should have new grass with cut Swedish, till 1st May. I am, however, of opinion,

that the new grass might be saved from pasturage, by adopting the feeding on grain or oil-cake. Suppose half a pound per day, of bruised oats, were given to each fattening wether hogg for six months or 180 days, that would be 90 lb. to each, or about 2 bushels at 3s. per bushel, or 6s. each. Suppose this extra feeding increased the weight of each hogg 2 lb. per quarter, or 8 lb. on the carcass, at 6d. per pound, is 4s., with 2 lb. of extra tallow, at 4d., is another 8d., and 1 lb. of extra wool, at 1s. 4d. per lb., making in all 6s., which is just the value of the oats repaid. This result shows no pecuniary advantage gained by this mode of feeding, but this important object is gained, that wether hogs could be so fed without touching grass at all, until the 1st of May, when they could be clipped, and sent ripe to market 20 lb. per quarter; whereas, if they are only fed on turnips, they cannot attain the same degree of weight and ripeness till June, after they have eaten new grass for two months. By the feeding I propose, the new grass can be saved, in fact, for the ewes and lambs, which is a matter of great importance, besides the bringing a heavier carcass to market at an earlier period, with more tallow and wool of superior quality. The purer the breed of Leicester sheep is, they possess the greater aptitude to fatten, and the more highly they are fed, they come the sooner to maturity.*

11. EFFECTS OF CLIMATE AND FOOD ON THE WOOL OF SHEEP.—My opinion as to the effects of climate, situation, and food on the wool of sheep, is, that after having been a breeder of Leicester sheep, and purchased considerable numbers of them from Northumberland to the northern counties, and from personal observations made while travelling in that line, through almost every county in Scotland, which I have had occasion to repeat this year, I cannot perceive any effects of climate on the wool of Leicesters, judging of climate from a difference of latitude in this portion of the island. I examined a large flock of them in Caithness, the property of William Horne, Esq. of Scouthel, and I could see no perceptible difference between their wool, and that of the flocks they are descended from, the property of Mr. John Wilson, Simprim, Berwickshire. I also examined the clip of Mr. Horne's sheep of this year, which I considered equal to Berwickshire wool, both as to quantity and quality, some of the hogs' fleeces weighing 7 lb. to 8 lb. I consider the whole flock equal to many of the best in the south of Scotland, both in point of mutton and wool. Some shearing tups had just then arrived from Mr. Wilson, and on comparing their wool with those of Mr. Horne's own breeding, I found the quality of both very nearly alike. Difference of situation, in regard to altitude, has a material effect on wool; and different descriptions of soils grow different kinds of wool as well as grain, but Mr. Horne's land in Caithness, and Mr. Wilson's in Berwickshire, are, however, much alike, being mostly clay, and this description of land will grow a much stronger pile of wool, than light gravelly or sandy soils, although the latter will grow it finer. Good

* Mr. John Dudgeon, Almond Hill, West Lothian, has fed hogs through the winter on turnips, 1 lb. oil-cake, and $\frac{1}{2}$ lb. oats each; and on 15th February 1838, they averaged above 130 lb. each live-weight, which, when reduced to dead-weight by the decimal .605, they weigh at this moment not less than 19 $\frac{1}{2}$ lb. per quarter.

feeding seems to be the grand means of growing the heaviest and most valuable fleece, inasmuch as it is fit for combing and for the manufacture of goods of strong and durable texture. No wool-stapler ever finds fault with wool being too heavy, if produced from high feeding, and the pile naturally fine. There are sheep called Leicesters, and other long-woolled varieties, with heavy wool, but of coarse quality; but the wool of improved Leicesters is soft and of fine texture, and the more highly such sheep are fed, the more valuable per lb. is their wool to the manufacturer, and of course more profitable to the grower. I recommend all breeders of Leicester sheep to select full-woolled sheep, with a fine soft texture of fleece, not too open, rather close as otherwise, and with a high tone of blood; and if such are treated as I have pointed out, breeders will always be insured of the greatest quantity of wool of the most valuable description, and the most valuable carcass for the butcher, and the younger such sheep are fed, the greater quantity and better quality of wool will be produced.

To show the effects of difference of situation and food on the wool, I once divided a lot of Cheviot lambs, when weaning, into two, and put the one lot on full keep on low grounds, and the other to a green hill farm. The latter got no turnip, but still came through in fair condition, their fleeces weighing about 3lb. each, worth 1s. a pound, 3s. The fleeces of the other lot that got full keep weighed 5lb. each, worth 1s. 4d. per pound, 6s. 8d. The high fed wool being fit for combing; while the other being short and tender was only fit for secondary clothing wool.

12. **TREATMENT OF HALF-BRED CHEVIOT SHEEP.**—The treatment of crosses from Cheviot ewes and Leicester tups should be conducted with the same care and attention as Leicester sheep, to insure good sheep mutton and a valuable fleece, although it is scarcely possible to attain the same degree of perfection from any half-bred sheep, they being usually kept on inferior land and higher situations. Turnips being now grown on all land, where half-bred sheep are kept, I can see no reason why they should not be encouraged by good feeding as well as Leicesters; making allowance of time in their arriving at maturity, from the difference of blood. This cross will produce wool of *finer* quality than Leicester, and being combing wool, is more valuable per pound.

13. **TREATMENT OF CHEVIOT SHEEP.**—The black faced breed long took the lead in occupying all the mountain-ranges of the north, from a notion that they were much harder than the Cheviots; but long and fair trials have proved that Cheviots are also a hardy race; and now the greatest part of the mountains of Caithness, Sutherland, Ross, and part of Inverness, are stocked with Cheviot sheep of the very best description, and which are not only quite suited to the northern climate, but the land is as competent for their maintenance, for they thrive admirably. When Mr. George Culley of Akeld, wrote his observations on Live-Stock in 1807, he described the Cheviot sheep as being very deficient in the fore-quarters, wanting breadth both there and on the chyne, and that their wool weighed only 3lb. per fleece, 2lb., of which was fine and worth 1s. per lb. and 1lb. coarse, worth only 6d.; but he sagaciously remarked, that if they could be improved in form, and the fleece rendered equally fine, they would prove a most valuable sheep for high districts, and which, he had no doubt, would one day be accomplished.

His hint has not been lost sight of. For thirty years the Cheviots, both in form and fleece, have been much improved, and they are now dispersed over a large portion of the country, and which, along with the new system of light stocking, and improving of arable land by growing turnips, are circumstances that have had the desired effect of bringing them to their present state of perfection. They are excellent feeders, have mutton of fine flavour, and their wool, though short, is fine and valuable, but when made long enough to comb, by good feeding, is the most valuable of all British wools.

Cheviot tups should be selected on the same principle as Leicesters, and fed as highly as the circumstances of the land will permit; and separate tup parks for the hogs and old tups should always be provided. The tups are generally put to Cheviot ewes from the 10th to the 15th of November, previous to which, for a month at least, and while tupping, they should be well fed. A sufficient store of hay should be provided for a severe winter. Cheviot ewes should have turnips for a month before lambing; and during the month of April, they should have turnips strewed on the grass to keep them full of milk. They usually begin to lamb about the 10th or 15th of April. When lambing, they should be tended in as far as the circumstances of the farm will admit. Cheviot lambs should not be weaned before the first or second week of August, as it is in the latter end of July they make the most improvement. In high districts, the ewe lambs, after being weaned two or three weeks, should be pastured along with the ewes, and this plan insures the most healthy ewe stock. The ewes should not be milked more than four or five days after the lambs are weaned. They should be kept full of grass till tupping, as Cheviot ewes cannot be too full of condition at that season, both for securing a good crop of lambs, standing the wintry blast, coming to the lambing vigorous and strong, and producing a full clip of wool.

With respect to the effects of climate on Cheviot sheep, it is quite plain that, although they are the natives of the Cheviot mountains in the north of England, they have been tried with the climate of the north of Scotland for about forty years; and although the store farmers in those wild districts neither did get, or could get, the best stock from the Borders to commence with, yet from their exertions, and judicious selection and management, they can now vie with the Borders for Cheviot wethers, ewes, and wool. A northern climate thus seems to have had no bad effects on Cheviot sheep. Nay, I am credibly informed, that the clips of wool are both heavier and finer in many parts of the north than what they are in the south. This circumstance, I conceive, can only be accounted for from the great quantity of sheep moss-plants which grow early in spring in the high grounds of Caithness, Sutherland, and Ross-shires. These plants are said to be as nourishing as turnips, and promote in a wonderful degree the growth of wool.

14. **TREATMENT OF BLACK-FACED SHEEP.**—With respect to the treatment of black-faced sheep, the same remarks I have made on Cheviots will apply to them. This breed of sheep is the hardest of all the mountain breeds, but there can be no doubt that the Cheviots are the better paying sheep of the two, if the land is at all capable of keeping them; and there is much land in Scotland yet supporting black-faced, quite capable of keeping Cheviot sheep. They have been much improved within

the last twenty or thirty years. We have only to compare the black-faced wethers now brought to Falkirk with those formerly shown there from Lanarkshire and Peeblesshire. The improved breed are round in the carcass, and well-formed, with clear, bright, and mottled faces, fine round horns, and clean legs. They are spread all over the high land. Their wool has been much improved of late years by judicious selection of tups, light stocking, and better management. I consider land will keep more black-faced than Cheviots. The latter being longer-sided, eat more food, although they fetch higher prices, both for carcass and wool. Excellent specimens of sheep have been produced by crossing them with the Cheviots, and still more so with the Leicesters, the latter being a splendid cross, the carcass being very handsome and compact, and completely suited to the London trade. In both crosses, the wool is very much improved.

To recapitulate briefly what I have endeavoured to enforce: Sheep with the most useful qualities of wool must be selected by the breeder. Good treatment and good feeding are absolutely necessary to bring both the carcass and fleece to maturity. Although I am not of opinion that climate, at least the difference of climate in Great Britain, has any material effect on wool, yet different situations, and different kinds of food, produce difference in wool. Moss plants produce heavier wool than plants growing on light thin soils. Rape produces heavier wool than turnips, and broad clover heavier than white. All these nourishing plants produce not only heavier and broader wool than those from light soils, but softer in the texture, and longer for combing, for which kind there is always a great demand.

15. SALVING OF SHEEP.—The practice of salving sheep in high situations, to protect them from the inclemency of the weather, is a very old one, and was, until within the last twenty or thirty years, entirely performed with tar and butter; but the high prices obtained for white wool above that of salved for some years past, have induced many store-farmers to try a variety of new salves composed of different substances, many of which have proved a failure. A few of them have succeeded to a certain extent. Those made from cocoa-nut oil, olive-oil, and turpentine, are said to have stained the wool the least, but many of the new salves stain the wool as much as the old method. In consequence of this, many wool-growers who tried the new salves are now returning to the tar and butter, giving a larger proportion of butter, and mixing them well together; but too much tar is still used, is not thoroughly mixed, and laid on the sheep in a very careless manner. Great care should be given in applying the salve, the wool being shed clean, and the salve laid on regularly, close to the skin. By such care, the wool will be much less stained than if carelessly done. It is also necessary, even in low situations, and with feeding stock, to use certain liquors to kill the vermin which naturally breed on sheep, such as the kid-tick and sheep-louse. Tobacco juice and spirits of tar or turpentine, are generally used for this purpose; and as all sheep are subject to vermin, so all sheep not salved should be run over with some such liquor in the end of autumn before putting them on turnips. The proportion of tobacco liquor to that of the spirit of tar or turpentine is as twelve to one. Sheep that have been driven are apt to become itchy after being put on good keep. Running them with the liquor after they have come off the journey, will prevent any

out-break on the skin. It is the duty of the shepherd to attend to all these particulars in the management of sheep, but the farmer should also be skilled to them, in order to be able to keep the shepherds at their duty. When shepherds know their duty, and perform it attentively and conscientiously, there is not a more valuable and useful class of men, as servants, belonging to the agricultural profession; but however useful or attentive they may be, it is the duty of the sheep-farmer at all times to keep a watchful eye over his shepherds and his flocks, for it is only by so doing he can insure to himself a fat sheep and a valuable fleece.

ON THE IMPORTANCE OF IMPROVEMENTS IN AGRICULTURE.

Whilst on the one hand we do not entertain the slightest apprehension lest population should increase so rapidly as to render it doubtful whether the earth will afford sufficient means of subsistence, still we think there are many cogent reasons why every exertion should be used, not only to obtain a sufficient home supply of agricultural produce, but also to encourage the cultivation of land now uncultivated, and, by better management, to increase the present rate of produce per acre. We know well that the continental resources are very large, and that if the consumption in England became so large as to much exceed her home production, that ample supplies could be obtained, and that very demand would tend to increase the supply, by bringing into cultivation millions of acres of rich land now laying waste, because no market can be found for the produce. Great and unexpected changes, however, are constantly taking place; hence it is that independent of those advantages of primary importance which must result from giving employment to our labouring population, we very much prefer, so long as we have the means, a reliance for a supply of grain upon our own farmers' rick yards, to a dependence upon foreign granaries. Who could possibly have anticipated that the United States of America, from having carried on an immense export trade of wheat and flour, should have actually been compelled to import grain from Europe. Possessing some of the richest land in the world, a new country, and therefore necessarily agricultural, very thinly peopled in proportion to the land occupied, from untowardness of the seasons, the devastation of insects, the direction of labour into other channels, and the exhaustion of the old lands by forcing crops of other descriptions, this fine and fertile country has not produced sufficient grain for her own consumption. This unexpected event has, however, produced its good effect. The energies of the citizens of the United States are aroused, and we have no doubt that, so far as human prudence and forethought can go, a similar deficiency will be guarded against in future. In the frontier and first settled States, large tracts of land were worn out and exhausted by the growth of tobacco and such crops as suited best for the European market. Cultivation has been neglected, and a considerable

portion of the inhabitants of these States have in a great measure placed reliance upon supplies of grain from the interior of the country. A failure of the crop has taken place, and they are compelled to purchase from Europe at a high price. The lesson has not been lost, upon the legislature of the United States. It appears by a letter addressed to the farmers of Massachusetts, and published in the "Farmer's Magazine" on the 1st of March, for the benefit of British landlords and agriculturists, that an agricultural survey of this State has been ordered by the authority of the legislature, and the writer, a Mr. Henry Colman, of Boston, having been appointed a commissioner for such survey by the executive, addressed this letter to the farmers of the State, setting forth the character of his mission, and explaining the mode in which he proposes to prosecute his enquiries. So far as we can learn, the survey will be extended to every State in the Union, and when completed will afford a mass of valuable information upon every topic immediately bearing upon agriculture, not omitting that important and interesting subject agricultural statistics. His enquiries are classed under forty-three heads, each of which embraces several particulars. It appears that the Hessian fly is as terribly destructive to the wheat crop in America, as the turnip fly to the turnip crop in this country. Under the head "wheat," we find the following query: "Whether attacked by the Hessian fly or other insects; and preventives, if any." The writer states that

"Wheat is, in many parts of the country, subject to injury from an insect or worm, whose appearance is comparatively recent, and whose habits are not well ascertained. He is making dreadful havoc in the wheat regions, producing in many cases an entire destruction of extensive fields of the most promising appearance; and has advanced at the rate of about forty miles a-year. The same insect, it is believed, though the identity is not perfectly ascertained, has attacked barley, rye, and oats with alarming success. The cultivation of barley has on this account been abandoned in some parts of the State; and so has the cultivation of wheat in what have heretofore been deemed some of the most productive wheat regions in New York.

"Inquiries and experiments on this subject are of immense importance. A perfect preventive or security would be worth millions to the country."

We invite attention to this letter in part because it contains a systematic arrangement of enquiries upon various agricultural points, which are almost all equally objects worthy of enquiry in this country, but mainly to warn the inhabitants of the British islands against the danger of neglecting the cultivation of the soil, and to stimulate those who are interested in the prosperity of agriculture to encourage and promote it by every legitimate and rational means in their power. It has recently been stated, by the writer of a letter in a London paper, and who is, we doubt not, a sincere advocate of the agricultural interest, although in our estimation his zeal far outruns his knowledge of the subject, that "agricultural practice is, in every point of view, a minor department of agriculture." We have ever been of opinion, and daily experience strengthens our conviction that "practical agriculture" is the *most*

important department of agriculture, and that in all our movements of whatever kind, for the purpose of advancing the interest and improving the condition of the agriculturist, we should keep that great end and object *practical agriculture* constantly in view. It is not necessary for us to cross the Atlantic, to cite authority in support of this opinion. We have the highest authorities upon the subject in this country upon our side, but as the writer of the letter first alluded to, who has been selected by the Government of the United States to undertake an important duty, and which selection affords *prima facie* evidence of competency, has a remark applicable to this subject, we quote it, for the purpose of showing that he coincides in our opinion as to the importance of practical agriculture. He says,

"The objects of the survey are most important to the farming interest. I go to seek information from practical men; and shall be happy to communicate all that I receive. I solicit the correspondence and co-operation of such men. It is reasonable to hope that the inquiries will elicit much valuable knowledge; that they will contribute to excite and strengthen a spirit of improvement in agriculture, this most honourable and useful pursuit; that they will unfold agricultural resources and capacities of which we were not fully aware; that they will strengthen those which already exist, and present new reasons for a devoted attachment to our native state."

HÆMATURIA (ACUTE RED WATER) IN CATTLE.

BY M. DROUARD, MONBARD.

(From the Veterinarian.)

The frequency of this malady in the last spring having enabled me to observe several phenomena respecting it which no practitioner has yet described, I am tempted to present to you, not a perfect *monographie* of this disease, but, an account of certain symptoms and lesions, and which go far to indicate the causes of it—at least in our country.

It is rare that we are called in at the commencement of this disease; but when we do first see our patient, the following lesions usually present themselves. The pulse is slightly irregular—the urine high coloured, or assuming a reddish tint—the animal preserving for a short time its spirits and appetite—the muzzle is abundantly moistened with its natural dew, but presently the breathing becomes accelerated—the pulse is small and wiry—the urine takes on a bloody colour—the coat stares—the muzzle becomes dry—the secretion of milk, if the patient is a cow, diminishes, as does also the appetite, and there are occasional shivering fits, with alternations of cold and heat at the horns and the ears. The appetite by degrees entirely ceases—the secretion of milk is suppressed, or a very few drops only are yielded, and they are frequently of the colour of blood—the urine becomes of a more decidedly blood colour—it darkens beyond that, it is black—the pulse is small and frequent, as many as 80 in the minute—the beatings of the heart, however, the same in number, can frequently be heard at a considerable distance

—the urine is voided frequently, and without pain—the loins will not bear pressure—the patient becomes exceedingly weak—the skin and the mucous membranes are deathly pale—the animal moans lowly and frequently—it at length lies down without the power of rising—the eyes are buried in their sockets, and the poor creature rapidly wastes away and dies.

This disease runs its course with much rapidity, dating from the time that the urine begins to assume a bloody tint. In some cases the patients can scarcely be said to be ill; they seem to suffer no inconvenience, and if we did not see the colour of their urine we should not suspect that anything was the matter with them. With others the disease takes from three to six days—rarely more—before it arrives at its greatest degree of intensity; in these cases it is always a serious affair, and utter loss of appetite, violent palpitations of the heart, general debility, and excessive paleness of the skin and mucous membranes, are observed.

The malady continues from two to four or six days; in a great majority of cases the animal is abundantly better, or is dead, before the expiration of this period.

I have only seen one case in which hæmaturia was complicated with inflammation of the brain; here was stupor and somnolence rapidly succeeded by the utmost violence. The animal died about the tenth day.

If we may judge of the intensity of the disease by the colour of the urine, we may say, that, if we see it, in one or two days, change from a light red tint to the deepest hue, we may also see it, in favourable cases, as rapidly recover its natural transparency. It is not so with regard to the general strength of the animal, which it takes a considerable length of time to recruit. If cattle are moved from a low to a mountainous country, and there contract the disease, everything is changed with regard to them—their food, their work, the soil, &c. They become presently fatigued, they stagger as they walk, and very soon are totally unable to work; but, by degrees, their strength returns, and they perfectly recover their former health.

There can be no doubt that this malady, whatever it be, has its principal determination to the kidneys: the mucous membranes that line their cavities become the seat of a sanguineous exhalation, or a passive hæmorrhage; the blood, very fluid under these circumstances, does not coagulate; it passes through the ureters into the bladders, mingles with the urine, and stains it of its own colour. It is usually evacuated without any apparent pain, but those evacuations are rendered somewhat more frequent by the additional specific gravity of the blood.

If this exhalation is continued, the blood is deprived of its fibrinous and colouring matter, and the urine becomes black.

If a vein is opened, the blood appears serous and discoloured, and the hand introduced into the vessel which contains it is scarcely stained. If the hæmorrhage is not subdued, the kidneys lose all their power, and the bleeding is purely passive; the beatings of the heart become exceedingly strong, while the arterial pulsations are scarcely felt; the animal, at length, is no longer able to support himself, and he dies, in a manner, bloodless.

In the ruminant, hæmaturia does not take the same course, nor has it the same termination as in the solipede. The difference in the organization

of these animals, their different idiosyncracies, and food and work, are so many sufficient causes of this. I have never seen it in cattle terminate in gangrene, or suppuration, or ulceration of the kidneys or the bladder, although we do often find calculi, both renal and vesical, and particularly those of a golden colour. Possibly hæmaturia is occasionally produced by the existence and rapid development of these concretions.

Some animals, as I have already stated, appear to suffer little from this disease—they are scarcely at all incommoded by it. In many cows the secretion of milk does not appear to be in the least degree diminished: but the animals preserve their ordinary spirits and appetite. The prognosis will, of course, be favourable in such cases. The hæmorrhage will seldom last in them more than one or two days; should it, however, continue to the third or fourth day, there is nothing to apprehend while the animal retains his ordinary appetite. The bloody tint of the urine oftenest disappears about that time. If, on the contrary, the hæmaturia should continue, and the pulse should be small, and beat 70 or 80 times in a minute, the pulsations of the heart being at the same time violent; if there is complete loss of appetite, excessive debility, paleness and discolouration of the skin and mucous membranes, the animal will generally be lost, although, by more than usually skilful treatment, one may now and then be saved.

I used to think that, on opening the dead body, I should find considerable lesions of the tissue of the heart, the kidneys, and the organs designed for the excretion of urine. I thought that I should find some traces of inflammation in the fourth stomach and the intestines, especially in a cow that, in the course of her illness, exhibited evident symptoms of cerebral disease. In this case I have found the cellular tissue surrounding the bladder infiltrated with a mingled green and bloody serosity. The fourth stomach, in a great number of animals that I have opened, did not present the least redness. Occasionally in the third stomach there is some exceedingly hard and dry food—the epithelium, which lines the leaves of the maniplus, as is the case in many diseases, is torn from the coat beneath in the attempt to separate them. All the tissues, and particularly the muscular tissue, are white and bloodless. The kidneys are pale: occasionally there is a little blood contained in their pelvis. The bladder is generally empty, or now and then contains a small quantity of bloody urine. The mucous membrane of the bladder, although otherwise sound, sometimes participates in the general discolouration. The tissue of the heart is soft; its cavities contain small clots of blood, and the larger vessels are almost empty.

Young animals—well-fed oxen—bulls that are too early employed in the work of reproduction—animals that pass from the valley to the mountain—and those that, under the influence of change of regimen, speedily acquire condition, are most disposed to this disease.

The occasional causes are the sudden access of sultry weather—pasturage in abundant after-math—the eating down of green oats, or barley, colewort, or charlock, or wild mustard, or ground-ivy, or, finally, feeding on the young shoots of elm, red cornel-berry, hawthorn, maple, privet, hazel-nut tree, the oak, and resinous trees.

Some have said that these animals sometimes swallow cantharides by pasturing along the privet hedges, and drinking in marshy places shaded by

the ash. We have many cantharides in our country, but I never heard of any harm produced by them. The smell which they exhale, and the excrement which covers the grass beneath the trees which they inhabit, are sufficient to prevent animals from pasturing there; besides which they are never found under the tree. As to their poisoning the water, I have placed them under water for more than twenty minutes at a time, and they were not injured.

Colchicum, ranunculi, the marsh marigold, the mercurialis, plants more or less injurious, have also been accused of producing hæmaturia; nevertheless, we have seen, and we every day see, cows eat the mercurialis and divers ranunculi without being in the slightest degree injured.

It has also been said, that hæmaturia may be produced by the resin of the young buds of resinous trees, or the astringent matter of oak leaves. Some chemical researches, made by M. Lecler, of Montbar, have enabled me to state, that the spring buds of the hawthorn, maple, and ground-ivy, contain a very great quantity of gallic acid, while those of the oak contain very little; that the buds of the elm, the oak, and the hawthorn contain a great portion of tannin, while those of the cornel have but little, and those of the maple none at all; that those of the cornel and the maple contain only a small quantity of resin, and that the fluid in which all young buds are macerated reddens turnsol in a very decided manner.

These analysis demonstrate, that the principles to which we have been usually accustomed to attribute hæmaturia are in too small quantity to produce the effects we have observed; and that we must rather search for the cause of it in the usage of green food in the spring, and of ordinary aliment too aqueous, and in which their proper active principles are not yet sufficiently developed. The animals eating a great quantity of these at that season, the organs of digestion are slightly excited—an excitement which is soon calmed down by the continued usage of these over-aqueous aliments, and which gradually produce a general debility or loss of power. The consequences of this are, discolouration of the blood, and an unnatural state of fluidity in it, and its consequent evacuation by the mucous surface most ready to be acted upon by it, and which is the mucous surface of the kidneys.

In 1834, vegetation proceeded very rapidly. I had a great many patients labouring under this disease, and almost all the early ones died. In 1836 and 1837, on the contrary, the vegetation was slow and interrupted, and hæmaturia did not appear, at least in the canton of Montbard.

Treatment.—We have, hitherto, somewhat too exclusively employed the antiphlogistic method in the various stages of this disease. In following, with attention to the successive development of all the symptoms which characterize it, it must be acknowledged, that, if the sanguinous turgescence is principally perceived in the region of the kidneys, their state of engorgement will not be slow in being replaced by an opposite one, accompanied by all the principal indications of anemia or bloodlessness. It is on this account that we need not wonder to see charlatans counting on a certain number of cures by means of the stimulants and the tonics, which are indiscriminately employed by them in every stage of the malady. Every impostor has his peculiar recipe; and, unhappily for agriculture and for the veterinary surgeon, the

number of these imposters is far too great in our country.

Animals bred in the valley, and who pass from thence to the woody pastures which cover our mountains, all suffer from this change of food. They should be left in the woods but a very little time, and should occasionally return to the stable, their herdsmen keeping the strictest surveillance over them, for I have never known the same beast have this disease a second time.

If we are called in at the commencement of the disease, one light bleeding may sometimes be prescribed, depending on the degree of inflammation that is observed. But in general it will be prudent to be very cautious in the employment of the lancet. Emollient ptisans, and injections of the same kind, should also be employed with much caution; it should be the same with the vapour bath and emollient applications to the loins. In fact, we cannot employ these means to any good purpose more than a day or two; and if the hæmaturia continues, we should have recourse to a decoction of sorrel in milk, and the animal should also be made to take some pounds of rice and barley-water. If, on the third or fourth day, the colour of the urine is as deep as at first, and the pulse has become small, and the beating of the heart more powerful, we may, with less danger than at the commencement, employ tonic astringents, commencing always with the least active. Thus we may make the animal take cold ptisans of willow, oak, or horse-chestnut tree bark, with which some ferruginous salt has been mixed. We may likewise continue the decoctions of sorrel and milk, and sharpen the tonic injections with some drops of vinegar.

Does the pulse, exceedingly weak, form a strange contrast with the strong and rapid beatings of the heart? We must hasten to employ analeptics, as pure milk, bouillies, soups of well-crushed potatoes, which the patients must be made to swallow; also some meat broth, and some ounces of powdered gentian infused in wine. Such are the means which I daily employ; and if in our country the loss amounts to one animal out of four, it is because the veterinary surgeon is not called in until the charlatan has wasted all his resources, and the poor beast is in a desperate state.

Récueil, Oct., 1837.

SAGACITY OF ANIMALS.

A late number of the *Bibliothèque Universelle* contains some remarkable and well-ascertained instances of animal sagacity, from which we select the following:—

A person lodging in one of the fauxbourgs observed daily, for several weeks, six dogs, who used to come regularly at the same hour, and assemble in an adjacent meadow, where they sported and amused themselves. The motive of their assembly was as obviously the purpose of sport as that of persons who go to a ball or to a spectacle, at an appointed hour.

An attempt was made to teach a dog to mount a ladder; but the animal was soon fatigued with the exercise, and escaped. But the next day he was seen to return to the ladder alone, and voluntarily endeavour to succeed in mounting it, as if the motive of ambition impelled him to renew the attempt.

A milkman, who used to go before the break of day, in winter, to fetch milk from a farmer who supplied him, had a dog whom he employed to carry his lantern. One morning this dog was accidentally locked up at the time his master departed. The moment he was liberated, however, he followed him; and, when he overtook him, finding that his master had not the lantern, immediately returned home, and seizing the lantern, followed his master with it.

A tame pigeon, who had been domesticated in a kitchen, happened to see a fowl killed; on witnessing this, the bird immediately took flight, and never returned to the kitchen.

ON AGRICULTURAL IMPROVEMENTS.—MANURES.

The observations made by a gentleman in the *Farmer's Magazine* for February, which has the signature "J. D." at the end of it, calls for some remarks from those who advocate the propriety of cultivating science with the practice of farming.

This "J. D." writes as an experienced farmer of Northumberland, and like the late Wm. Cobbett ridicules scientific knowledge, and perhaps as he expressed himself, knows not where the British Museum is, nor can understand its use to the country. I go with this farmer to the full extent of his observations on the unhealthy state of our former paper currency, and that the price of land should at once be accommodated to the price of the produce, that it is a futile attempt to force the price of corn up to the price of the land, and ruin farmers by the experiment. But when he says "that not an acre of land was ever improved by the suggestions of a chemist," I beg leave to throw down the glove to him, which I hope he will pick up, and endeavour to make good his assertion. We will consider the currency question thrown overboard, and also any idea of raising the price of corn, by introduction of any new sort of manures; but a greater return may be obtained for the capital expended, if the country would take up the question generally, of husbanding the resources from great towns, and thus the lecture of Mr. Burges A. M. of Cambridge, may serve the farmers if they can be induced to use that strongest of all manures, human soil, properly prepared, as well as the sediments from drains and cesspools, as now prepared and sold in London. Whether the millions of tons of sedimentary matter, as calculated upon by the Thames Improvement Company will ever be realised, is a matter of much doubt, London being so badly situated for the design; but that a manure is prepared on chemical principles from soil and sedimentary matter, I know full well, having used some of it in a drilled crop, with the best effects, on a sandy soil in Surrey, in the year 1835. The same spot is now wheat, and before Christmas I could see by the colour of the blade where it was laid. But now for the chemistry of this subject, I am given to understand, and have no reason to doubt the information that the inventor of the disinfecting powder, was rewarded with 3,000 francs in Paris by a society there, this was discovered, and is made by the aid of chemical knowledge. The powder is now in use in London, and I am informed by the proprietors, Messrs. Lance and Co., than one bushel of the powder will disinfect three bushels of the most stinking stuff that can be found, which with the aid of mechanics, is reduced to a powder, and so mellowed, that it may be put into the ground with the seed.

The *Northern Farmer* says, "the lectures of Davy has added nothing to our practical knowledge," no, they have not told him, that there is a farmer, of my acquaintance, at the extreme west of Surrey, who yearly transplants from 5 to 10 acres of Swedish turnips, according to the failure of the seed, he having generally 60 acres of that root every season, and this year he has found the transplanted white Swede stand the winter better than any other; nor has chemistry told him that mangel wurzel seed, may be dibbled with success, also wheat, or any other corn, may be, and is raised with success in many parts by that process which was hinted at by Mr. Burges in his lecture, and sneered at by the observations of "J. D.," who says, that such processes are "impracticable."

"If our lands were allowed to be cultivated we should soon be an exporting country, instead of sending our labourers away" not having any use for them; yes, certainly this may be done, the waste sands of west Surrey, are quite as capable of being cultivated as the waste sands of Holland, which has been so successfully done in the establishment of poor colonies at Fredericks-Oord, and other places. But then our farmers and our inhabitants of towns must be more sparing in the wasteful expenditure of manure, they must not let their dunghills drain away into their ponds, their night-soil, and their drains and their cesspool sediments must be prepared with the powder, as hinted at above; so that the country may have some advantage in the enormous importation of vegetable and animal matters, which yearly come to our country, instead of being sent back again into the ocean.

It is true, that gentlemen meet in London and debate about the currency, and Rudkin's machine, subscribe thousands, and not increase the growth of one blade of grass, but, as it is called, here is a bait No. 2 for the Central Society. A Mr. Kimberly, after using some hundred bushels of the animalized carbon, considers he has found out the secret of compounding animal and vegetable matters, and changing their "fœtid gas into a constituent, of the aroma of the flower," by making a heap of refuse vegetables, in a field and decomposing them with a saline and calcareous mineral; but he must first get the tons of matter together, and where are they to be got as rubbish, from clean and well managed farms or their enclosures? I have seen where much manure was wanted, yet the hedges were not 12 inches thick or the divisions were stone walls. For particulars of how to make a compost cheaply, where there is plenty of filth weeds, cleansing of ditches, rotten leaves from a wood &c. on a farm, the public are referred to a small pamphlet called *The Cottage Farmer*, the cost is only one shilling; in it, there is the particular constitution of most manures, and of how farming may be aided by chemical knowledge. And here I would enquire of "J. D." how he would tell the propriety of putting lime or chalk on land, for two soils may, to all appearance, be similar in structure, they may be of the same colour, and have the same tenaciousness; (as the red clay on top of the chalk hills, and the red clay of Warwickshire,) yet are they, from their calcareous properties very dissimilar, one is fertile, the other is sterile. Chemistry will show the cause of this difference in agricultural quality; experience certainly will find out that there is a difference, but it would not show the remedy for the defective one; yet the test of an acid will at once point out, in what one is deficient. It may be true as "J. D." says, that "when a farmer has 200 acres of turnips to sow, there is no time to think of chemists and gases," but if the chemist can make

him a manure from the refuse of London, free from unpleasant scent, which may be drilled in with the seed, and not purchased until it is going to be used, and that at an expence of from two to three pounds per acre, he may get as good turnips, as if he had put on 20 loads of stable dung, then he ought to pay some deference to chemical knowledge. "The great and insuperable obstacle to all improvement in England," is not the expence, but really the antipathy which farmers have to any change in their old procedure, for they look at experiment, in the same light as speculation, with chances against them.

I quite agree with "J. D.," when he says that the farmer who does not use every means to improve and keep up the quantity of vegetable matter in his soil, that is, to supply something of artificial manures for the quantity of corn and animals he sells off his farm, that it is like a manufacturer who erects machinery, and then refuses to buy the raw material to keep it in motion, he must fill his land with manure, as the miller must buy the corn before he grinds it, he must procure the means of production, or he will puddle on in confusion. I therefore beg to express a hope, that it will not be long before this French invented chemical powder, will become more generally known, that it may be procured for disinfecting excrement soil in all parts of the country; and that those most formidable antagonists, prejudice and preconceived opinions, may be got rid of, and trampled on, by the advantages obtained by science.

A SURREY FARMER.

ON THE GROWTH OF MANGEL WURZEL.

In accordance with the request of "A Young Farmer," I feel very great pleasure in communicating to him what practical information I may possess on the growth and storage of the Mangel root; and on any point of agriculture on which I feel myself at all competent to write, I will so do, as I have always considered that *The Farmer's Magazine* ought to be made a vehicle through which anything bearing upon the practical and experimental part of agriculture might be conveyed to the agricultural community. Having been a yearly grower of something like ten acres, I will give my plan from the preparation of the soil, till the root goes to the stall:—I first plough a clean stubble or etch directly after harvest, harrow it well, and let it lie till the beginning of November, I then plough and harrow again. As soon as possible in the spring, I get on some well prepared manure, about twenty good cart loads per acre, and about the middle or latter end of March plough it in, and as early as possible in the month of April drill in—I never knew it sown broad-cast—3lbs. per acre of seed, four rows on a three ridge stetch; as this will be found to seed the land much too thick, (a good fault,) as soon as it is sufficiently up it will require a good hand weeding and setting out; the cost of so doing, and two subsequent hoeings, on clean friable land (no foul land ought by any means to be sown) will be found to be about 11s. or 12s. per acre; I then have it horse-hoed with one hoe, the horse walking through every row, moving the soil about three inches deep; by this means, on good land, I usually grow somewhere about twenty or twenty-five tons, or good cart loads per acre; about the latter end of October I have the leaves stripped off, the dead leaves more especially as they are almost sure to rot the root if

left on, and the roots brought home and placed in a pit about 10 feet broad and 70 or 80 long, this may be easily made by throwing out the soil about 4 feet deep, and with it making banks about 5 feet high on either side and ends, making it in all 9 feet deep, let the bottom be lined with wood faggots, and then fill it with Mangel within one foot of the top, cover again with faggots, and then top the whole up with barley straw, and thatch it, but previous to that a good layer of earth, a foot thick at least, ought to be laid on the straw all round the sides and ends, that the frost or snow may be prevented driving under the ends of the thatch; I find this to be a very safe plan for the preservation of the root. Mr. Hillyard in his little practical treatise, gives the following plan abridged:—

"Those who have not a depth of mould free from couch, and a good supply of manure, had better not attempt the cultivation of Mangel. It will grow on soil where Swedes will not grow. Mangel improves by keeping. For lambing ewes in the spring it is invaluable, filling them with more milk than turnips. It should be drilled or dibbled about 1 inch deep. Soak the seed till it sprouts. I dibble in single seeds $3\frac{1}{2}$ inches apart, in a hole made by a boy pressing down, by a handle about 4 feet long, a piece of wood 16 inches long, and about 4 broad, with 3 pegs in, 7 inches asunder, to make 3 holes an inch deep, one seed put in each hole (2 if the seed does not appear good) and rake the holes in. When taken up the latter end of October strip off every leaf, and throw into furrows, 2 rows pull up by hand, the other with double-mould-board-plough, with shell-board off. Dig pits 2 or 3 feet deep and 12 wide, in these the roots are stacked, and ridged up to the height of 10 or 12 feet from the surface of the earth, faggots should be set upright about every 2 yards in the centre of the pit, and continued to the roof, all along which faggots should lie, by this contrivance the heat is carried off, and rotting prevented; cover up with dry straw or haulm, then cover with mould, allowing a little time for the heat to escape before completely covering the top for winter store."

The soil I should consider the most suitable is certainly a good rich loam, but there are few soils, except the very hottest, on which a fair crop may not be grown; on clay bottom lands of fair staple, I have seen some excellent crops, and I imagine Mangel does not do that mischief on such as many other root crops would do. I have never tried bone-dust, and can form no opinion of its merits as a manure for the Mangel root, not having had sufficient confidence to give 3*l.* or 4*l.* per acre for it, it tells most miserably on the profit of the crop. I like to get all the manure I possibly can, raised on my own farm, and little do some farmers imagine the mines of rich manure they have on their own lands, in the shape of marl, rush-ashes, burnt earth, &c., whilst they are sending their teams and their money for lime, and other manures, to the distance, sometimes, of 16 or 20 miles from home; I feel warmly, as regards foreign manures, on the expediency of applying either bone-dust, lime, or oilcake manure to such an extent, whilst we are neglecting the opportunities and capabilities we possess at home of superseding them both.

Whilst on the subject of Mangel, allow me to recommend it as a safe, and very excellent substitute for hay to horses; I have fed my horses with it all through the winter; about half a bushel per head, mixed with cut chaff, on this, with one bushel and a half per week of corn each, they have kept in good working condition, and consider by this means I have kept them, at least, 30 per cent. cheaper than I could have done on hay. I am persuaded that it comes next to the carrot, parsnip, or Swede turnip.

AN ESSEX FARMER.

ON THE BEST SYSTEM OF CROPPING.

SIR,—I am happy to see that the Bucks farmer's letter denouncing the alternate system of cropping as impossible, has called forth abler pens than mine, but as you wish that the subject should not be allowed to drop, I beg to add a few lines further, hoping that the Bucks farmer may be induced to favour the public with the particulars of the rotation of crops he recommends, and the nature of the soil he cultivates.

A retired merchant as I am, generally becomes the most spirited improver, because a merchant is accustomed to lay out money, and has confidence in its returning again to him with a profit.—If the soil in question is a stiff clay, I should not be afraid to expend a considerable sum in liming and draining, and would have little apprehension of being badly paid if the outlay is made with prudence and discretion. Manure must afterwards be provided, and if the soil does not answer for sheep and turnips, the object must be attained in some other way. One of your correspondents justly commends the practice of eating off the green crops with sheep, and lays a just stress upon the saving made in carting home the crop, and again carting out the manure, which in large farms is of the greatest importance, and almost indispensable, but there is an old proverb, which recommends, to cut your coat according to your cloth, and therefore, if your farms do not accord with sheep, you must cut them down to the size that will suit other stock, for stock you must have of some kind, or you cannot have the necessary manure, unless near to a town. Let the size of the farms then be reduced to 60 or 100 acres, and the cartage out and home will not be so great an object. The farmer will then be able to keep the number of cattle, recommended by Mr. Blacker without inconvenience, that is, one for every three arable acres, and if turnips will not grow, let him substitute potatoes and mangel wurzel, either of which will grow in the very stiffest clay, and either of these will form excellent winter feeding, whether for milk or fattening. We are in this country, I fear, very much inclined to look down upon Irish landlords and Irish tenants, but I have lately been told, that there is a spirit of agricultural improvement abroad there, that would put to shame the apathy and supineness of our landlords and tenants here, and if we continue to adhere to the old jog-trot of our ancestors, I am rather apprehensive we shall very soon be distanced by those whom we have been almost taught to despise. We have daily cause to be astonished at the increasing exports of that country, and if we do not make more exertion on this side the Channel, our lands will not produce enough to pay the expences of cultivation at the low prices which the importations from Ireland will occasion. I shall therefore await with considerable anxiety to see what account the Bucks farmer will give of himself.

MERCATOR.

PRESERVATION OF GRAIN.—The apparatus lately invented by M. Vallery for the preservation of grain, has been examined by a committee of the French Academy of Sciences, and met with approbation. M. Vallery's objects have been, first, to be able to make a given space contain four times as much corn as it would hold, according to the usual method of packing. Secondly, to stir the grain with the most perfect facility, without requiring an entrance into the apparatus. Thirdly, to pass a current of air across the mass of corn

while it is in motion, and make every grain feel its influence. Fourthly, to preserve the grain from rats, &c., and also from insects. Fifthly, to prevent the insects which have been driven out, from returning to the corn. Sixthly, to keep the corn in a perfectly healthy state. Seventhly, to preserve the corn in the dampest periods, and even to dry it when it has been accidentally wetted with water. Eighthly, to restore the skin of old corn to such a degree of softness, as will make it proper for grinding, by passing a current of damp air through it; and lastly, to preserve small as well as large portions with the greatest economy. The apparatus intended by M. Vallery to fulfil these conditions is, a hollow cylinder of wood, turning horizontally on its axis. The grain when put into it, does not entirely fill the cylinder, that it may likewise turn upon itself. A ventilator with centrifugal force, is placed at one of the extremities, and this ventilator, by aspirating the air contained with the grain in the cylinder, forces the external air through it. The action of the ventilator is combined with the rotation of the cylinder, and the successive movement of all the grain facilitates a thorough action of air into every portion. The ribs of the cylinder are pierced with holes, which not only give entrance to air, but serve as issues for the insects which are disturbed by the motion of the grain; a light roof of canvas covers the whole, in order to prevent any insects from falling into the apparatus from the roof, when it happens to be at rest. The experiments already made with this machinery have proved its efficacy, and the committee sum up their conclusions by saying, that this movable, isolated, and ventilated granary, frees the corn from the insects contained in it at the time of stowing it away, entirely shields the grain from after destruction by opposing an insurmountable barrier to fresh insects, prevents fermentation by the current of air which visits every portion, is capable of imparting humidity when it is too dry; and, by making it sufficiently dry, renders it capable of being packed in a smaller space.

THE TURNIP ROOTED CABBAGE.

MR. EDITOR,—On perusing your "Agricultural Report for February" I read as follows:—"All the white turnips are rotted" is in the mouth of every one, and "how beautiful they were in the last week of December." Will not the frightful reverse, with the recollection of what were the ravages of the grubs of *Egrotis segetum*, instruct the farmers to begin in good earnest with kohl-rabi—i. e. Hungarian turnip-rooted cabbage; or are they too stolid to receive instruction, either from promising assurances, or the most calamitous reverses?

From this passage I infer, that the writer would teach farmers to cultivate "in good earnest," the kohl-rabi. He ought himself to be, and I trust he is, well assured that the Hungarian turnip-rooted cabbage would have borne uninjured the severity of the last winter, or at all events, that it would endure the severity of our ordinary winters; and that it is less liable, than turnips are, to the ravages of the destructive grub which he names. If he be perfectly assured of these points, farmers would owe him some gratitude for pressing the cultivation so earnestly. "Promising assurances," however, are sometimes made, from the hope of having an experiment tried at the expense of others. "Promising assurances" might be made by a party possessing a light bag of kohl-rabi seed, which he would be glad to vend at the modest cow-cabbage seed price. Until practical farmers are thoroughly assured that those "promising assurances" are not founded upon such or similar motives, they are wise in being "too stolid to

receive instruction," lest they meet with "the most calamitous reverses."

I have a small plat of turnip-rooted cabbages, and of turnip-rooted cabbage crossed by the Cæsarean kale, and of turnip-rooted cabbage crossed by the Scotch kale, and adjoining these a plat of Cæsarean kale or cow-cabbage, another of Scotch kale, and another of ordinary white turnips, another of savoy cabbage, another of brocoli. The soil and exposure alike in all.

The turnip-rooted cabbage, the hybrids, the Cæsarean kale, the turnips and the brocoli, have been all destroyed by this winter's frost. The Scotch kale and the savoy, which have been much injured, have some green leaves remaining, and may possibly afford some healthy foliage as the spring advances.

The turnip-rooted cabbage, which has certainly shown no power of enduring severe frost, beyond that possessed by the ordinary field turnip, it exhibits at this time as loathsome a mass of vegetable putridity as can well be imagined. I ought however to observe that I do not know whether my sample be a true specimen of the kohl-rabi or Hungarian variety. About 4 or 5 years since the seeds were given me, under the name of No 1 Kohl, with a multitude of other seeds, by a gentleman then recently from the Cape of Good Hope. Knowing nothing of their habits, I raised them in a melon pit, afterwards transferred them to the greenhouse, and ultimately to the open ground. My specimens may, therefore, have been treated too tenderly to endure a severe winter. If the habits of this plant were originally hardy, it might require, after having enjoyed an African sun, to be again acclimated.

E. KING.

Blackthorn, Oxon, March 7, 1838.

PLOUGHING MATCH AT GRENADA.

FROM THE GRENADA FREE PRESS, NOV. 22, 1837.

This report may interest some of our readers, by shewing them that even in the most distant parts of the British dominions exertion is made to improve the state of agriculture.

In pursuance of an advertisement, dated November 10, a numerous muster of agriculturists and others assembled at Sagesse at an early hour on the 18th. The sun for the preceding week having scarcely deigned to make his appearance, shone on that morning with unusual splendour.

By nine o'clock, fourteen candidates had entered the lists; the land, being sufficiently saturated by rain, had been previously measured off, and a field better adapted for the purpose could not have been selected. The men, whose teams were on the ground, took their situations according to their lots. (It was here to be lamented, that a few willing to compete were prevented from bringing teams, in consequence of the distance from the scene of action.) This, however, was speedily remedied by the spirited promoter (Mr. Carige), who most kindly supplied them with some of the remarkably fine teams belonging to the estate, thus affording every possible facility to the undertaking. The gentlemen who had accepted the office of judges were Messrs. Mac-Arthur, Mac Donald, and Smith, aided by the President of the Agricultural Society, each individual being every way competent to decide. Meanwhile, the start having commenced, from one hour to an hour and a quarter was occupied in ploughing each

lot. The arbitrators took great pains in surveying the allotments, and had much difficulty in forming their decision, the greater part of the work having been executed in such admirable style. Particular notice was attracted to, and great merit bestowed on the plough-boys of Mr. Carige, for their adroitness in managing their oxen, with goads, in lieu of the long unsightly whips so common in use.

The heat of the day, added to its exertions, requiring some early libations, a plentiful supply of porter, lemonade, and sangaree had been, by the directions of the projector, appropriately stationed in a cool retreat.

The furrows being disposed of, an adjournment was voted from labour to refreshment; sixty gentlemen now sat down to partake the hospitality of their host (Mr. Carige), and the discussion of his favourite old English fare fully proved that the heat of the climate had no ways impaired the appetites of his guests.

The cloth removed, numerous loyal, patriotic and agricultural toasts passed from the chair; and the ploughmen having, according to summons, made their *entré*, Mr. Wells, in an impressive speech, every way calculated to inspire and excite emulation, announced to the candidates the decision of the arbitrators.

To Thomas Downs, first prize of 5*l.*; the second, Robert Mac Queen, 3*l.*; the third to John Popham, 2*l.*; the fourth, John Calloway, 1*l.*

Having delivered the premiums, Mr. Wells proposed a bumper to the President, who he stated had got up the *fête* to afford his countrymen an opportunity not only of a display of their prowess as ploughmen, but to create a spirit of emulation in the breast of every spectator.

Mr. Carige then rose to return thanks, and briefly observed, that such an exhibition as they had been that day gratified with might, he trusted, serve to convince our agricultural labourers that we are anxious, as far as in us lies, to exonerate them from the most arduous part of their work, by a continued introduction and extension of machinery in lieu of manual labour, entreating his present friends not to be deterred from attempting improvements, by the occasional obloquy cast on the failure of well meant attempts at useful innovations on the old system. Draining his glass, with thanks to the company, in sanctioning his endeavours by their presence, he expressed a hope that some spirited friend to agriculture would afford him an opportunity of contesting for the prize No. I. ere the dissolution of 38 took place.

The successful candidates, including the facetious Mr. Mac Queen, (yclept the Bonny Little Plough-Boy) being next drank, a thundering applause announced his rising, and his address of thanks by no means defeated the anticipated mirth.

The unsuccessful candidates, with sundry other local toasts, being drank, the party withdrew; when the Ploughboys speedily refilled the vacated seats of their superiors, and did equal justice to the substantial provided for them.

USE OF SOOT AS A MANURE.—When spread early in the winter on meadow lands, the beneficial effects of this substance are frequently observable for three successive seasons, but when mixed with earth and dung its use is attended with even greater success; a sort of soapy-earth is formed which is beneficial to almost all kinds of plants, and its use quickens vegetation. The mixture should be formed of two parts of earth, one of soot, and one of dung. A layer of earth should be covered with soot, over which a layer of dung

should be placed, and thus alternate layers must be arranged in a bed about three or four feet high, and three wide. Soot mixed with the earth dug from ditches, in the proportion of 1-4th, may in about six months afterwards be used with success in dressing meadows. Of this latter mixture about thirty bushels should be used to the acre; spread on wet soils it will destroy the moss and neutralize the bad qualities of the soil. Cattle are observed to prefer the grass grown on lands dressed with soot, which owes its valuable properties to the quantity of carbonate of ammonia which it contains, and which is a most active vegetable stimulant. On this subject we would remark that soot, like many other articles, is even subject to sophistication by the unprincipled vender, who, mixing with it charred sawdust, and many other carbonaceous substances, the refuse of many chemical operations, renders it comparatively inert and valueless.

ON HIGH AND LOW PRICES.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—In an article published in your paper of the 19th Feb., entitled "The Effects of High and Low Prices," the writer signing "T. F." quotes my arguments, in favour of high prices, and pays me the compliment of saying those arguments are incontrovertible, and concludes with hoping that I shall give the result of my further enquiries. I will, therefore, as concisely as I can, notice the arguments, or rather the assertions, which he mentions as being brought forward on the opposite side. The first is the assertion, that when labour falls in price according to the fall in price of corn, the profits on employing capital must rise, particularly in regard to the commercial and manufacturing classes. In answer to this assertion it is only necessary to remark, that the profits of trade and manufactures must always depend on the competition which exists, and there is nothing to show that competition will be lessened in these branches by the fall in the price of labour, arising from the fall in the price of corn. Let us suppose this reduction in price of labour arose from any other cause; for instance, suppose a machine to be invented that would enable a man to do twice as much work as he could have previously done—here the price of labour is lowered one-half, and what is the known consequence? why this—that every manufacturer gets the same machine—the force of competition lowers the selling price, and the profits on capital remain the same as before. Common sense points out that any superior profits arising from any trade or manufacture soon brings so many to compete in it, that the profits are soon reduced to a par with others. I apprehend this cannot be denied, and therefore the principle assumed, viz., that a fall in price of labour would encrease profits of capital being proved erroneous, all the reasoning built on it, fall to the ground—such as the encreased opulence of the commercial classes making up for the defect in the home market by reason of the ruin which must arise to the landlords. The accumulation of capital and the better distribution of it (how this was to be attained by the plan is not stated, no more than the "really high wages" which are promised to ameliorate the state of the labouring classes.) It appears to me that the second argument or assertion is exactly in opposition to the first, viz., that the capital withdrawn from agriculture would be applied to the export of manufactures to pay for the importation of foreign corn. Now we all know, that the more plentiful our manufactures are made on the continent the cheaper they must become, and if agricultural capital is turned to increase the already abundant supply of corn, the British manufacturer must lower the cost of manufactures to the utmost. What then becomes of the high wages promised to the workmen, and particularly when the agricultural labourers, thrown out of employment by the admitted ruin of agriculture, shall have been added to the number of competitors for manufacturing employment. It is scarcely necessary to go further than to compare the results and the

principles produced by these arguers to show the total delusion they are under, but to show that the expectation of increased foreign trade is as illusory as every other part of the free trade system, I beg to refer your correspondent to Mr. Blacker's exposure of this identical point in his review of Mr. Shaw Lefevre's letter to his constituents, where he shews that our export has been greater in those years 1834, 35, and 36, in which we imported no corn, than in the three previous years, when we imported largely. The fact is exactly as Mr. Blacker states, that the continental states are all our rivals in manufactures, and they will only take from us articles they cannot do without, and for these they must pay by denying themselves in luxuries such as wine, fruit, brandy, &c., &c., and thus enable themselves to pay for our articles of first necessity, whether we take their corn from them or not. I only quote Mr. Blacker from recollection, but I remember I was fully convinced by his reasoning, in answer to Mr. Lefevre, and I think T. F. will be convinced also, if he takes the trouble to see his pamphlet. I am, however, surprised to see him, T. F., state a supposition which is taken as applying to Great Britain, that if the revenue falls from 10 millions to 9 millions, whilst the currency is changed in the proportion of ten to eight, that the state gains in reality a million of increase. This is nothing but the most palpable absurdity as applies to a nation in debt; for example, we are subject to 30 millions interest of the national debt, and if, according to the supposition, every eight millions of the enhanced currency is equal to ten millions of the old value, we shall have paid to the public creditor 24 millions; we shall have paid a full equivalent for the 30 millions of old currency we were liable to, but nevertheless we have still to make up the difference between the 24 and the 30 millions, viz., six millions of the enhanced currency equal to $7\frac{1}{2}$ millions of the old, which $7\frac{1}{2}$ millions we should be exactly so much out of pocket, besides that, the revenue being reduced in the proportion of ten to nine, we should have a falling off of nearly five millions in our means of making up the payment.

T. F. recommends me to peruse Ricardo, and Malthus; I am already pretty well informed as to their views, and I venture to recommend to him to study Mr. Blacker's pamphlet "The Claims of the Landed Interest" and his review of Mr. Lefevre, in which publications he will find, as far as I am a judge, the principles of both fully confuted. In fact all questions of political economy according as they may affect the prospects of one or other class of society, resolve themselves universally into the question how far the interest of the community shall be affected thereby, or in other words, in what relative proportion the three great contending classes, the commercial, manufacturing, and agricultural contribute to the wealth and prosperity of the state.

Mr. Blacker wisely commences his examination by clearing up this point, and I know of no other writer that has attempted it; nevertheless, until this foundation is clearly laid, all political economists are at sea without a compass, for the good of the state is the desideratum sought, and how is it to be found unless it shall first be established what principally contributes to it.

From the want of this point being clearly established, political economy has been hitherto charged, and justly charged, as having no certain foundation to rest on, and its deductions are looked upon with distrust if not with a portion of contempt, and it is for this reason, Mr. Editor, I have on former occasions begged your attention to this subject, and that you would endeavour to engage the daily press in its discussion. Whoever looks on the statute book for the last two or three centuries, will have most abundant proofs how little the true national interests have been understood, and the study of the enactments of later years will not, I apprehend, shew that modern legislators have been very much wiser than those who have gone before them.

The editor of a paper having such a circulation as yours, has much in his power. I trust you will give this subject the pre-eminence it deserves, and allow it to engross a portion of your leading article until public attention is attracted to its importance.—I am, &c., &c.,

MERCATOR.

EXHIBITIONS OF LIVE STOCK.

TO THE EDITOR OF THE TAUNTON COURIER.

SIR,—I have hitherto considered that, by your devoting the columns of your journal to the publicity and advocacy of the proceedings of the Taunton Agricultural Society, you were doing to that Society and the nation a most essential service. To improve the symmetry, size and propensity, to early maturity, in *all* animals, has been an object of great importance to accomplish by every enlightened breeder and grazier of stock in the empire, ever since the days of that immortal man (in memory) Bakewell, who devoted his life and property to that most important object. The example and success of that patriot aroused the attention of every unprejudiced and unbogged man in the empire, and, I may say, of the civilized world. The success of that zealous man spurred up Agricultural Associations, patronised by royalty, and enlightened characters, from the noble down to the practical breeder; and the result has been that, wherever Agricultural Associations have been established for that purpose, (it is gratifying to know that they are universal, except within the confines of the Williton Union, and circumscribed limits,) the size, symmetry, and quality of every description of animals, has improved to the satisfaction of the breeder and grazier, and to the benefit of the consumer. The hundreds of Associations and the thousands of their members and supporters now associated, and being associating, clearly demonstrates the individual and national benefits which have resulted. The object of that profound breeder of live stock, (Bakewell,) was, by crossing, to supply the deficiencies of points in one sex by redundancies in the other, but never losing sight of early maturity. The system, where it has been followed up, has produced a breed of stock not to be surpassed in the world, and has been accomplished chiefly by breeders producing for honorary rewards their stock at public meetings, which gives an opportunity to judge of the merits or demerits, and where breeders may inform themselves from whose stock they may improve their own; for it is not to be expected that those possessing a superior breed will "hawk or hunt" that stock from "house to house," as "fire briefs," were required by law—now extinct. But what we must hear, in these days of the "march of intellect!" We hear, that at a meeting called at the Wyndham Hotel, Williton, on the 29th of January, with the view to establish an Institution to carry out these important objects, the improvement of agricultural implements, and others equally important, which a local association has now an opportunity to accomplish, that an aspiring divine gets up and denounces associations for the exhibition of live stock, with the attempted power of Perkins's steam-gun. "If you have an exhibition of cattle," says this enlightened divine—and we are informed that he did so say—"I will have nothing to do with it!" And, to give this notable and powerful saying effect, raked up the memory of that patriotic nobleman, Lord Somerville, who died at Vivay, in Switzerland, October 5, 1819. This was an unlucky "hit," and which the inexperienced in matters they are totally ignorant of, frequently make. Why, every person who knew that nobleman, knows that he devoted his whole life to the improvement and exhibition of live stock, from a patriotic motive. He not only gave premiums to an enormous amount, out of his own pocket, but gave cards of invitation to three or four hundred practical men, to dinner at Freemason's Tavern. This he continued to do for many years, and up to March, 1816, when his health became so impaired that he left this country for the Continent, never to return alive. His death was a national loss. The important services of this nobleman to the Agricultural Interest was the stepping-stone to his being one of the Lords of the Bed-Chamber to King George the Third. It is recorded that that Prince thus addressed him:—"The pursuits of agriculture particularly become an English gentleman, and I wish more of the nobility displayed the same zeal for public improvement."—Had this nobleman been alive, *inco.*, at the Williton

meeting on the 29th ult. he would have said, "Sir, you libel me." The rhetorical rhodomontade accompanying this denunciation had such an effect, that the attention of the meeting was drawn to the all-important object of giving premiums for half-bushel baskets of potatoes, for small quantities of carrots, parsnips, onions, &c. &c. of similar importance. Now—you, Sir, and hundreds of your contemporaries who have so usefully, in my opinion, devoted your columns to promote and encourage the exhibition of live stock,—would it not, now the dictum is passed, be wise to consider the sin you have been committing:—would it not be wise for the members of the Taunton, and all the numerous associations in the empire to call meetings immediately to consider this denunciation—this great sin they have been committing for so many years, and apply for absolution? I will now only add, that I have been, in common with the many thousands of live-stock exhibitors, a sinner, if it be a sin to promote the general interests of the country. Your attention to this may draw forth some further communication.

Your's, &c. FAIR PLAY.

COTTESMORE. — HEDGE-CUTTERS AND DITCHERS.

Offered by Sir Gilbert Heathcote, Bart., M. P.

To the Labourer in Husbandry, residing in the County of Rutland, who shall, at Mr. Baker's Farm, on Thursday, Feb. 22nd, cut, lay, and ditch, in the most workmanlike manner, eleven yards of hedge-row.—First prize, five sovereigns; second prize, three sovereigns; third prize, two sovereigns.

Candidates to give notice on or before Thursday the 8th of February, when full particulars will be forwarded to each candidate, and they are requested to meet at the Hall Barn in Exton Field, at seven o'clock in the morning, draw their number, and proceed upon the work south of the barn.

The hedge-cutters who competed for the premiums in 1836 and 1837, are recommended by Mr. Baker to look over the work executed in those years.

On Thursday, Feb. 22, this important work was set about in true spirit by 29 labourers: and on Monday, Mr. Burgess, of Ridlington Park, Mr. Rudkin, of Langham Lodge, Mr. Robert Smith, of Burley, Mr. Cheetham, of Hambleton, and Mr. Pickering, of Beaumont, met at Mr. Baker's, and proceeded into a careful examination of the work executed in 1836 and 1837, and then to the work executed on Thursday week, and agreed upon their award of prizes, as follows:—

To No. 11. William Neale, of Wardley, first prize, 5*l*.
No. 28. Robert Gregg, of Barleythorpe, second, 3*l*.
No. 27. John Haynes, of Ridlington, third, 2*l*.
No. 7, William Lee, of Empingham, commended, and the party presented him with a sovereign.

Mr. Baker stated, that in the first year's trial he selected the Judges from Rutland, Leicestershire, and Lincolnshire; last year three gentlemen of Rutland had kindly filled the office; and upon this occasion he again ventured to trespass upon the services of the latter gentlemen, adding to their numbers two others, considering that the examination of *all* the work would be useful; and if certain points were now by these experiments clearly made out, the more rapidly and correctly such information was spread throughout the county the better—*strict observation and conversation* had done much towards arresting the progress of *destroying* quick fences by improper cutting and laying. Next year, if Sir Gilbert Heathcote continued these liberal premiums, Mr. B. would endeavour to arrange for the cutting to take place on the southern side of the county, which he thought would open the field of improvement more fully and effectually for competition and enquiry. The gentlemen who had taken an active part in this business with himself had one great object in view, general improvement and service to the agriculture of the county.

STOCKS OF FLOUR AND THE CROPS IN THE UNITED STATES.

For two years past our country has exhibited the unwonted spectacle of being a large importer of breadstuffs for the consumption of its own citizens. Previous to that period the United States were annually blessed with a superabundance of the staff of life, and were enabled to supply to a large extent the wants of less favoured countries. Many of our readers will doubtless recollect that previous to 1836 the importation of a lot of foreign grain of any description was a circumstance of rare occurrence, and was as such noted in the newspapers of the day. But in the year referred to a new state of things suddenly sprang up; for the first time since its settlement, this country realized the disaster of a general and absolute failure of its crops, and for the first time recourse was had to foreign countries for bread, thus reversing the established order of things, and making us *buyers* when before we had uniformly been *sellers*. In reference to the wheat crop of 1837, great diversity of opinion has existed—some declaring in round terms its great abundance, and others maintaining the position that in the principal wheat growing districts of the Atlantic States the quantity realized was but little if any over that of 1836, and that in the country at large the crop was undoubtedly short. Our own opinions, or more properly speaking, convictions, on this subject have been given to the public on the several occasions during the past season, and it may not be amiss that they should be here briefly recurred to. The close personal attention devoted to the making up of our weekly review of the market had for years past brought us into intimate contact with the most intelligent and undoubted sources of information, embracing both buyers and sellers, respecting the grain market. From these as well as from our own means of information, supplied by an earnest and disinterested solicitude for the truth, we were led to express the opinion early last fall, that in all the region of country which usually looks to Baltimore for a market,—that is, all Maryland, and the adjacent districts of Virginia and Pennsylvania,—the wheat crop of 1837 was but little more in *quantity* than that of 1836. The quality, however, was decidedly better. The opinion then advanced, we are sorry to say, has been but too fully verified by the subsequent exhaustion of the crop, and by the concurrent testimony of Richmond, Alexandria, Georgetown and Philadelphia. The States west of the mountains, we have been uniformly assured, have realized abundant returns in their crop of 1837.

Intimately connected with the subject of the Wheat crop of 1837 is that of the stock of flour existing in the principal marts at the close of the year 1837. On this point, too, various opinions have been entertained.—Those who have heretofore held the opinion that the crops were abundant, have taken it for granted that the stocks of flour should be correspondingly large, and often have we seen the assertion repeated by the public press that the wheats had been monopolized by speculators, who were wickedly keeping up high prices in the midst of abundance. Now in reference to the stocks of flour, there need be no difference of opinion, because they can be so precisely ascertained as not to admit of dispute. Information of this character, by showing conclusively what the stocks of flour were at the close of 1837, will be valuable not only in establishing the truth in regard to a matter, in itself of such universal importance, but will enable the intelligent reader to form his own conclusions as to the extent of the crop from which these stocks were derived.

With these preliminary remarks we now proceed to redeem a promise made some days ago, to make up an account of the quantities of flour really on hand at the several principal markets in the Union. We were induced to undertake this task in consequence of the publication of a statement which appeared in this city some three weeks ago, and has since gained currency elsewhere, the professed object of which was declared to be the correction, by "facts," of the "errors" that had heretofore been committed by the newspaper press on

this subject. The statement referred to, preceded by its author's remarks, was published on the 2d January, and is as follows.—

Baltimore, Jan. 2, 1838.

TO THE EDITOR OF THE BALTIMORE PATRIOT.

The information contained in the accompanying extract of a letter from New York, may be valuable to your commercial friends, inasmuch as it corrects errors of the press, some of whose editors have laboured assiduously to create an apprehension of a scarcity of breadstuffs, and now refuse to publish facts which refute and rebuke their fallacies. AN OBSERVER.

"New York, Dec. 29, 1837.

"My last estimate of the stock of flour on hand has been fully verified. It is now ascertained to be 250,000 brls. I calculate on a daily city consumption of 1000 brls., and an export of 1000, but from Custom House returns it appears from the 1st to the 21st, but 4021 have been exported, being at the rate of only 200 brls. per day.

"The stocks on hand by last returns from Philadelphia, Baltimore, Alexandria, Richmond, Cincinnati, Louisville and New Orleans, are one million and fifty thousand barrels. Baltimore is set down at 183,000.

"Estimates of flour on hand at the respective dates, are from accurate sources.

Dec. 27, New York	250,000 bbls.
24, Philadelphia	153,000
25, Baltimore	180,000
23, Alexandria	34,000
23, Richmond	12,000
22, Cincinnati	208,000
20, Pittsburgh	16,000
22, Louisville	37,000
18, New Orleans	108,000

1,050,000

"Upwards of one million of barrels in the cities, at a period when the season for threshing out and grinding the crop has but commenced."

Commercial men, to whom the "information" here given is said to be "valuable," would naturally expect that a statement, recommended to their attention as a "correction of errors" on a subject of such universal importance as that in question, ought to be based on data not to be controverted. How far this was the case, the writer himself shows on the next day, January 3d, in the following note:—

TO THE EDITOR OF THE BALTIMORE PATRIOT.

"SIR,—The inaccuracy of the statements in regard to the quantity of flour stated in the communication made to you yesterday has induced me to investigate the subject.

"The whole calculation was hastily copied from the *New York Herald* of the 27th ult. Having satisfactorily verified his calculations of the stock on hand in New York, misplaced confidence attached to the estimates elsewhere—from inquiry among millers and dealers in the article, I am satisfied the stock on hand this day in Baltimore, does not exceed 30,000 brls.—and as the total inspections for 1837 are but 400,000, it is impossible that 180,000 could remain unsold.

To set down the stock in Baltimore,—the writer's own city,—at 180,000 brls., when in a few hours afterwards it is admitted to be but 30,000 brls., is indeed an unfortunate error; but not less unfortunate than the omission to mention when the *statement* was published, what is here subsequently declared, that "the whole calculation was hastily copied from the *New York Herald* of the 27th ult." Had it been known that the statement was a copy of the calculations of the *New York Herald*, it would only have been received for what it was worth; but in the shape in which it was published, it gained currency as an original Baltimore statement, and as such has since been copied into one of the most respectable commercial journals in the city of New York.

We shall now proceed to show what the stocks of flour actually were at the places embraced in the *state-*

ment, beginning at the most distant point. We invite the closest scrutiny of the data on which our results are based :

THE STOCK OF FLOUR AT NEW ORLEANS.

The *statement*, it will be seen, sets down the stock at New Orleans on the 18th December, at 108,000 brls. Now, what was the true stock? Commercial men know that *Levy's New Orleans Price Current* contains regular weekly accounts of the various kinds of produce received there, flour included. We have before us the file of that publication for the year 1837, from which it appears that the whole receipts of flour during the 51 weeks ending 23d December, were 262,133 brls.—of which 160,001 brls. were received in the first 26 weeks, and 102,132 brls. in the last 25 weeks.

But it will be observed that in the *statement*, the date at which the stock is professed to be given is the 18th December, whereas the aggregate receipts of 102,132 brls. for the last 25 weeks of the year terminates on the 23d December. By reference to the *Price Current* it will be seen that during the week ending 23d December there were received 13,602 brls., and if we assume that at least one half of this quantity, say 6,500 brls., was received between the 18th and 23d, we must deduct that amount in order to ascertain the true aggregate of receipts from the 1st July to the 18th December, 1837, and we accordingly find it to be 95,632 brls.—being actually from 12,000 to 13,000 brls. less than the amount which the *statement* says was the stock on hand. It thus appears that if the people of New Orleans had neither eaten a particle of flour, nor exported a barrel, from the 1st July to the 18th December, but had safely kept in store all that was received during that period, the untouched accumulation would still have been short of the stock alleged to have been on hand.

By referring to the weekly account of receipts, it will be found that from the week ending 4th November to that ending 16th December, there were received 41,192 brls., and adding 7,102 brls. for receipts between 16th and 18th December we have a total of receipts from 29th September to 18th December of 48,294 brls. From this amount we must deduct, first, the consumption of the city during a period of two months when its population is full; and secondly, the exports during the same period of active business operations. During this time, it will be recollected, flour was exorbitantly high in Texas, between the ports of which and New Orleans there is a constant intercommunication; and that at Mobile and other adjacent ports flour was scarce throughout the Fall, and commanded unusually high rates. Cuba and other West India Islands must have also received their supplies as usual from New Orleans. If therefore we assume for the consumption of New Orleans and its vicinity, and for the exports to the neighbouring ports and islands, domestic and foreign, an aggregate of 30,000 brls., which is believed to be a low estimate, we shall find that on the 18th December the stock on hand could not have exceeded 18,000 brls. The *excess of error*, then, in the New Orleans stock, is thus proved to be 90,900 brls., or *five times* its true amount.

THE STOCK OF FLOUR AT LOUISVILLE.

We have not received the details from Louisville for which we had written, but in lieu of them we have what will be deemed equally conclusive and satisfactory as to the general result. The *statement*, it will be recollected, has the stock at Louisville on the 22d December, 37,000 brls. The Louisville Journal's report of the market, dated on the 6th of January instant, has the following remarks on the subject of the article under consideration.

"*Flour*.—This article has become scarce beyond precedent—there is barely enough to supply the local demand—there is none at the river and the quantity on sale with the flour dealers does not exceed 500 bbls.—the price for superfine 6½ to 7 dols."

We want no better authority than the editor of the Journal in this matter. It is directly to the point, at both dates quoted, and taking the stock at its highest range, 4,000 brls., we find the *excess of error* in the case of Louisville to be 33,000 brls., or *more than eight times* its true amount!

THE STOCK OF FLOUR AT CINCINNATI.

The *statement* whose items we have been investigating, has a stock at Cincinnati on the 22d December, of no less than 208,000 brls.! What the stock truly was, will be seen by the following article from the Cincinnati Evening Post of the 16th instant, produced by the letter of inquiry which we had addressed to the editor.

"*FLOUR IN CINCINNATI.*

"Two days since, we received a letter from Baltimore requesting us to ascertain the quantity of flour in this market. The grossest batch of blunders we ever saw thrown together, and given to the public for facts, are contained in an article going the rounds of the eastern press, professing to give the quantity of flour in all the principal cities of the Union. In the article alluded to, Cincinnati is put down as having a stock of 'two hundred and eight thousand bbls.' We have been at some pains to ascertain the fact, and we have good authority for saying *there has not been more than fifteen thousand barrels at ANY TIME* this season, and that *there are not now ten thousand*, and some extensive dealers think *there are not seven in the city*. The reason is plain: the river and the canal, until within three or four days, have both been open; flour has been high, and it has been shipped as fast as it arrived. In ten years that we have known this city, we never knew but one instance of the stock reaching to fifty thousand barrels; that was a number of years since, when the river and the canal had both been closed for an unusually long period. We are also requested to furnish the amount inspected in the last year. This, an extensive dealer informs us, would not be satisfactory, inasmuch as large quantities are shipped to be inspected at New Orleans. One thing we are satisfied of the truth of, and that is, that the farmers and millers keep back their flour for higher prices in the spring, as is the custom with many when an article is already above the usual price."

One of the principal sources of the supply of flour of the Cincinnati market is the Miami Canal. Now it will be seen by the official report of the canal collector, that the whole receipts for the past year through that channel were but 73,956 brls.

Taking therefore the highest estimate of the Post, 10,000 barrels, as the stock on hand, we find, that in the case of Cincinnati there is an *excess of error* of 198,000 brls., or *nineteen times* its true quantity!

THE STOCK OF FLOUR AT RICHMOND.

In the *statement*, the stock at Richmond is set down at 12,000 brls., on the 22d December. It will be seen that on the 1st January, the stock was 10,317 brls. On the 22d December it was 10,000 brls. The *excess of error*, therefore, in the Richmond stock is only twenty per cent.

THE STOCK OF FLOUR AT ALEXANDRIA.

The *statement* claims for Alexandria a stock on hand on the 23d December of 34,000 brls. We have it in our power to show that the inspections at Alexandria for the whole year, owing to the failure of the wheat crop, were but 38,604 brls.

We shall now show what the stock really was. The following letter addressed to us by one of the most respectable citizens of Alexandria, under date of the 17th instant, says:—"I have endeavoured to ascertain from the best sources of information, the amount of flour on hand in this place on the 1st January, and find it to have been 1,500 to 1,600 brls., as nearly as it can be ascertained, which amount, from my own observation, I think, is nearly correct. The crop of wheat in those sections of country from which we receive our supplies has failed the last year, probably to a greater extent than almost any other part of the country where wheat is cultivated."

The true stock at Alexandria is thus proved to have been only 1,500 or 1,600 brls., instead of 34,000 brls., showing an *excess of error*, in this case, of 32,400 brls., or *twenty times* more than its real amount.

THE STOCK OF FLOUR IN BALTIMORE.

According to the *statement* under investigation, Baltimore is said to have had a stock of 180,000 brls. on the

25th December. On the day after its publication, however, the writer admits that the stock was only 30,000 brls.—a wide difference, truly. Our own sources of information,—which a test of many year's experience has satisfied us may be implicitly relied on,—authorize us in saying that on the 1st instant the stocks in Baltimore, in wheat and flour, were equal to about 12,000 brls. of Howard-street, and 11,000 brls. of City Mills, and allowing 2,000 brls. for possible small omissions, the aggregate of all descriptions did not exceed 25,000 brls.

An examination of the inspections for the year 1837, will show that the receipts for the last six months do not much exceed what the statement had given to Baltimore as the stock on hand at the end of that time :—

Inspections of Wheat Flour in Baltimore in 1837.

	bbls.	half bbls.
1st quarter	94,954	3157
2d do.	81,622	2093
3d do.	100,808	4984
4th do.	114,292	4543
Total.....	391,676	14,777

THE STOCK OF FLOUR IN PHILADELPHIA.

The *statement* sets down the stock on the 24th December, 153,000 brls. The Report of Inspections shows that the *entire receipts* for the preceding three months were but 64,000 brls.

If, therefore, our good friends in Philadelphia had neither eaten nor exported a single barrel during the last three months of the year, they could not, except by some process of magic, have made 153,000 brls. out of only 64,000.

The editor of the Philadelphia Commercial List, whose reputation for intelligence and accuracy is so well established, has taken pains to ascertain the true stock there, and declares it to be 38,000 brls. Here again, then, we have an *excess of error* to the amount of 115,000 brls., or *three times more* than the stock actually on hand!

THE STOCK OF FLOUR IN PITTSBURG.

We have no direct information as to the stock in Pittsburg, which the *statement* puts down at 16,000 brls. on the 20th December. The Philadelphia Commercial List states it at 12,000 brls., and believing that the stock does not exceed that amount, we adopt it accordingly.

THE STOCK OF FLOUR IN NEW YORK.

The *statement* claims for New York a stock of 250,000 brls. This, the reader will bear in mind, is the *very highest* estimate which has been made of the New York stock. Other estimates which we have seen has made the stock as low as 120,000 brls., and these two amounts may be considered as embracing the two extremes. The author of the *statement*, in a subsequent publication, says he has verified the correctness of the highest estimate in the following manner :—

" The inspection returns from the 1st Nov. to the 15th Dec. show..... bbls.	305,782
Exports at the Custom House	9,870
Consumption, allowing a soldier's ration to each man, woman and child, of 1lb. per day, for 45 days	45,000
On hand.....	250,912

The "exports" here referred to are those to *foreign* places only. The *domestic* exports have been entirely omitted in the calculation. For the last two years the failures of the crops have compelled this country to be importers of bread stuffs to a large amount for its own consumption. Hence we find that the foreign exports of New York for the year 1837 have dwindled down to 53,639 brls., and that the balance of its receipts has been required for home consumption. All the New England States draw large supplies of flour from New York, not one barrel of which, we believe, is noted at the Custom House. The Southern ports are also purchasers to a considerable extent. To omit the domestic export,

therefore, is to leave out of view the principal item in the calculation.

Again, the consumption of the city of New York is here estimated at 1,000 brls. a day. Intelligent merchants of that city have estimated it at 1,200 to 1,500 brls. a day. If, therefore, the domestic export for 45 days be taken into the account, and an increased allowance made for the city consumption, they will reduce the balance considerably below 250,000 brls.

Sources of information on which we have full reliance, make the stock in New York about 180,000 brls. This conclusion, we find, is sustained by the New York Gazette of the 19th instant, which states the stock "at from 170,000 to 180,000 brls." The estimate made by the editor of the Philadelphia Commercial List is 140,000 brls. From what has been adduced, we think we are certainly not underrating the actual stock in putting it down at 180,000 brls., and we accordingly do so.

RECAPITULATION OF ACTUAL STOCKS.

Having thus placed before our readers in detail the various data by which we have arrived at the stocks of flour in the several places named, we now proceed to make a recapitulation of the results of our investigation, viz. :—

Date.	Cities.	Actual stocks on hand.
1837, Dec. 18,	New Orleans	18,000
" 22,	Louisville	4,000
" "	Cincinnati	10,000
1838, Jan. 1,	Richmond	10,317
" "	Alexandria	1,600
" "	Baltimore	25,000
" "	Pittsburg	12,000
" 12,	Philadelphia	38,000
" "	New York	180,000

Total actual stock, bbls. 298,917

Let us now compare the items of the Baltimore writer's *statement* with our own results just ascertained. But before we make the comparison, we must advert for a moment to the error in the addition of the items composing the *statement*. By casting his eye back to the first column of these remarks, the reader will see that the total of the alleged stocks in the cities is put down in figures at 1,050,000 brls., and that this amount is immediately afterwards repeated in words, in the remark which follows them. The correct addition, however, shows that the total is 998,000 brls. The error of 52,000 brls. will more than cover the actual stocks ascertained to be in New Orleans, Louisville, Cincinnati, Richmond and Alexandria combined.

Estimated Stocks of the statement published in Baltimore, January 2d :—	Actual Stocks — based on the data just adduced :
bbls.	bbls.
Dec. 27, N. York 250,000	Jan. 1, New York 180,000
" 24, Philadel. 153,000	" 12, Philadelph. 38,000
" 25, Baltimore 180,000	" 1, Baltimore. 25,000
" 23, Alexandr. 34,000	" 1, Alexandria. 1,600
" 23, Richmond 12,000	" 1, Richmond. 10,317
" 22, Cincin'i. 208,000	Dec. 22, Cincin'i. 10,000
" 20, Pittsburg 16,000	Jan. 7, Pittsburg. 12,000
" 22, Louisville 37,000	Dec. 22, Louisville 4,000
" 18, N. Orleans 108,000	" 18, N. Orleans 18,000
Total.... 998,000	Total.. 298,917

Let us now take the total of the *statement* of stocks, published by the Baltimore writer on the 2d January

And deduct from it the total of the actual stocks, as ascertained from the data adduced in the preceding columns

And we find that it leaves a difference of, bbls. 699,083

Which difference shows precisely the extent of the error of the *statement* under investigation. To speak in round numbers, the *statement* claimed a stock of *one million* of barrels in the cities named, and we show that it is actually but *three hundred thousand* barrels in those

cities; consequently there has been AN OVER ESTIMATE OF THE STOCK to the enormous amount of SEVEN HUNDRED THOUSAND BARRELS!!

We have but a remark or two, in addition to what has just been stated above, to submit in reply to these round assertions. We have shown that the stock of flour in Baltimore on the 1st January, was but 25,000 brls. of all descriptions—that the wheat in the mills had been ground up—and that most of the mills had ceased grinding entirely. This stock, divided among some fifty holders, (City Millers and Howard-street dealers) would give them 500 brls. apiece, and yet we are to be told that the holders want additional Bank facilities in order to sustain the prices of flour! It is a rare occurrence that stocks are as small as they are at the present time in Baltimore.

There is a fact in connection with this subject, of too interesting and important a character to be omitted. The reader has seen that the Baltimore Inspection returns of the past year shows an aggregate inspection, in round numbers, of 400,000 brls. But we doubt whether he is aware that of this amount, only two-fifths were derived from domestic wheat. The *foreign wheats* imported into Baltimore during the year 1837 amounted to 1,043,347 bushels, viz.:—

In the month of January	133,320 bushels.
February	68,279 "
March	226,609 "
April	137,755 "
May	171,220 "
June	145,651 "
July	91,960 "
August	52,459 "
September	12,994 "
October	2,080 "
November	1,020 "
December, (not a thousand bushels.)	

Total..... 1,043,347 bushels.

The places from which these wheats were shipped were as follows:—from Bremen, 414,957 bushels; Hamburg, 28,075; Emden, 52,862; Prussia, 6,441; Amsterdam, 32,056; Rotterdam, 95,778; Liverpool, 61,812; London, 112,674; Lubec, 9,270; Dantzic, 53,100; Wismar, 14,185; Marseilles, 10,996; Pillau, 46,954; Havre, 3,759; Altona, 6,557; Wolgast, 8,892; Rostock, 63,560; Stettin, 5,655; Copenhagen, 6,214; Odessa, 850; Königsburg, 8,700.

These foreign wheats were all ground up during the year, and produced, according to the calculation of an intelligent and experienced miller, 239,000 brls. of flour. If we deduct this amount from 400,000 brls., the year's inspection, we arrive at the fact that only 161,000 brls. of flour were made from our own domestic wheats. Let us now go back to years when the crops were good, and when the sight of a grain of foreign wheat was, literally, more rare among us, than that of diamonds from Brazil, and let us see what the wheat region connected with Baltimore produced in those seasons of plentiful harvests.

Inspections of Wheat Flour in Baltimore.

Years.	bbls.	half-bbls.	Total in bbls.
1830	587,875	19,859	597,804
1831	544,373	21,537	555,141
1832	518,674	17,544	527,446
1833	524,620	18,072	533,656
1834	480,733	17,264	489,365
1835	516,600	21,333	527,266

The average inspection of the above six years is within a small fraction of 540,000 brls., all made of domestic wheat. Deducting from this annual average the 161,000 brls. of domestic wheat flour ascertained to have been made here last year, we find that the wheat crops in the region connected with Baltimore have failed last year to the extent of 379,000 brls.—Nor is this all. If in connection with this clearly ascertained deficiency we take the fact of a present exhausted crop, and take into consideration the stocks of wheat which are usually held over in seasons of plenty, we shall find

that the failure is at least equivalent to what would produce 400,000 brls. of flour.

In the markets of the district, the same extent of failure in the crops has been realized. The George-town (D.C.) Advocate says:—

"Our inspection for the year 1837, was a fraction less than 62,000 brls.

"From 1830 to 1836 both years inclusive, our inspection averaged 134,000, omitting fractions. The highest in any one year being 196,000, and the lowest 109,800. For twenty years previous to 1837, our inspection never was lower in any one year than 80,000. The whole conclusively shows, that the crop in the direction, whence our market is supplied, had not been as short as that of the last year, for twenty years past. The channels of supply had increased, though the supply itself had considerably diminished."

The Alexandria Gazette says—

"The whole inspection of this place, for the last year, will not reach 40,000 brls., while in former years, when the crops were good, it has been 130,000 to 200,000 brls."

The falling off in the inspections at Richmond and Philadelphia also prove but too plainly the limited product of the crops which supply those markets.

We now bring our investigation to a close. In pursuing it we have been actuated by the sole desire of ascertaining the truth, and in exhibiting the data on which our stated results are based we invite towards them a strict scrutiny. The people of the United States have been so long accustomed to abundant crops that not a few of them, it strikes us, have found it difficult to realize the fact of a failure. It is, we are aware, a novel position for our country to assume, in becoming a buyer of bread where she has always heretofore been a seller, but we take it to be the part of sound wisdom that the extent of her wants, as far as they may be found to exist, should be known, in order that they may be supplied in due season, rather than that, by shutting our eyes upon the truth, a smaller evil may grow into a serious calamity.

LIQUID MANURE.—Whoever wishes to derive the benefits which Mr. Cuthbert Johnson's pamphlet shews are enjoyed in Holland, France, Germany, &c., from the use of this precious liquid, would find themselves richly repaid for employing the able-bodied men and boys now in the union establishments in digging tanks, and collecting materials for casing them, as soon as the weather permits, with mortar made of grey lime, which common mason work, 'provided the bottom of the tank is little less than the top, and consequently that the materials rest solid against the sides, even if only four inches thick, boys and day-labourers have well executed; by this work rate-payers would be relieved from the maintenance of the many families who this winter have, for want of work, been compelled to seek support in the union houses. A tank domed over without wood-work with a pump, made by two labourers who had never used a trowel before, may be seen opposite to the Lamb stables, Eastbourne, and in consequence many more tanks have been dug in that parish. —*Brighton Gazette.*

MODE OF GETTING RID OF SNAILS.—These creatures are passionately fond of bran, or the outward skin of wheat. When this food is placed out for them, they leave it as seldom as possible, and when they do retire for a time, they return most eagerly to again feed on it. This suggests a mode of freeing any piece of ground of the insect. You have only to place over little heaps of bran, pieces of broken pipes, or pots, or vessels of any kind, which may shelter the food from the rain, and your work is done. The snails will congregate below, and you can in a short time destroy vast multitudes of them.—*Annales des Jardiniers Amateurs.*

ON AGRICULTURAL RELIEF.

SIR,—Although not a regular correspondent, I have read with some attention your number for February, and owing to some remarks made by "J. D." I am induced to attempt a reply to them.

In beating about the bush to ascertain the cause of agricultural distress, J. D. appears to me to understand the subject he is writing upon, but he is too voluminous, and after all, does not speak out to the purpose.

The cause of agricultural distress must be laid to the ignorance of the farmers, coupled with the conceit that they were to look to Parliament for relief, and even now, we are but just undeceived as to the possibility of receiving aid from that quarter, and the sooner the farmer is informed that it is to himself he must look for relief the better, by making himself acquainted with every practicable means of obtaining greater produce from his own particular occupation.

If it does not produce a fair return of profit, he should first ascertain whether he possesses sufficient capital, (or the means of obtaining it,) to carry it on with spirit, that is to say, that he has more than is required for the usual routine expenses, to enable him to hold a lot of half fat cattle or sheep, after rent day, or to buy extra food in cake or corn, in the event of a failure in his green crops, or being overstocked, or to withhold his corn from market, when it is evident there is an undue pressure or disposition to sell, regardless of the price; if a farmer has not this resource, let him take a smaller occupation, such as will set him at liberty on this head, as he may rest assured, if he is involved in a large occupation, his circumstances will not mend.

He must next inquire which is the way to improve his land, so as to grow and produce more per acre than his predecessor; this will be found to be the remedy for the distress, as is shewn in another part of the same number, where it is said some farmers are making a good trade, while others are complaining of distress. It will doubtless be argued that in time the process will defeat itself, by over-production.

I confess that I have no fears on this head. At present we are considerable exporters of agricultural produce in the shape of butter, seeds, and cake, from Europe, and an immense quantity of flour and oats from Ireland, to say nothing of increased consumption by the change of habits, which is still on the increase. It is true there may be an over-production of one article, say of wheat or beef, and it is to this end that farmers should have an eye; and even at this time, to my vision, they appear to be producing too much beef, and too little butter. In saying this, I am aware of the fashionable objection to cows, laying in their producing such ordinary manure, which falls to the ground if the number of cows does not exceed that of horses kept on a farm; perhaps the true objection lies in the word "trouble"—I am positive it does not in "profit," where there is a fair market for butter; and where is there not, in this country, which is said to pay 700,000*l.* per annum to foreigners, for butter?

Rents cannot be lowered by equitable adjustment, but must be subject to rise and fall, like any other marketable commodity depending upon the demand and supply; every one knows when any respectable farm is to be let, the applications for it are, and ever were so numerous, that the wonder is, higher rents are not asked.

Doubtless it is sound policy in the landlord to execute all permanent improvements, and charge the tenant interest for the same, where leases are not granted sufficiently long, to enable a tenant to remunerate himself, besides which, it throws open the

market to a larger number of competitors, on account of less capital being required, when a farm is to let.

Until J. D. asserted it, I never remember to have heard the utility of chemistry, as an adjunct to agricultural knowledge, questioned. I well remember reading Mr. Gayford's speech, at Bury, and was much pleased with his candour in acknowledging the superiority of the Scotch farming, to the Suffolk, and I understand his version of their application of chemistry to be called into operation when a farm is to be let, because he immediately adds—"If our landowners would get our soils analyzed, we should be better able to pay them their rents."

Surely if the chemical properties of a soil were known previous to hiring, the opportunities for improvement would be rendered more certain; if Mr. G. said before any field was sown, the soil should be analyzed, it was understood as spoken figuratively and not literally.

J. D. does not appear to admit that Mr. G. is a convertible farmer, or ploughs with two horses, which is the case, and I have no doubt has as good ploughmen, as any J. D. can produce from either side the border.

Your correspondent, Dr. Wilkinson, of Bath, states positively, that the science of chemistry may be most advantageously employed in the extension of agricultural knowledge, see page 87. Many other authorities might be quoted, but—*tempus fugit*.

Yours, truly,

W. T.

Hethersett, near Norwich, March 17.

THE ENGLISH AGRICULTURAL SOCIETY.

A few weeks back we took occasion to advert to the proposal made by Lord Spencer and the Duke of Richmond at the last Smithfield dinner, to establish a national agricultural society, to co-operate with local societies, and afford a grand central body for the promotion of agricultural improvements and the advancement of agricultural interests on an extensive and systematic scale. We have now the great satisfaction of announcing that there is every prospect that the benevolent and patriotic designs of these noblemen, gentlemen, and others who, from the first, have co-operated with them will be successfully carried out. We perceive by an advertisement in the *Mark Lane Express* of Monday, that the undermentioned noblemen and gentlemen, having observed the great advantages which the cultivation of the soil in Scotland has derived from the establishment and exertions of the Highland Society, and thinking that the management of land in England and Wales, both in the cultivation of the soil, and in the care of woods and plantations, is capable of great improvement by the exertions of a similar society, request that those who are inclined to concur with them in this opinion will meet them on Wednesday, the 9th of May next, at the Freemason's Tavern, at one o'clock, to consider of the means by which such a society may be established, and of the regulations by which it shall be governed. The following names are appended to this document, and we are proud to observe amongst them several of those already most highly and deservedly esteemed by the agriculturists of this part of the country:—Duke of Richmond, Duke of Wellington, Earl Fitzwilliam, Earl Spencer, Earl of Chichester, Earl of Ripon, Earl Stradbroke, Lord Portman, Hon. Robert Clive, M.P., Hon. B. Baring, M.P., Sir James Graham, Bart.,

M.P., Sir F. Lawley, Bart., M.P., H. Blanchard, Esq., John Bowes, Esq., M.P., E. Buller, Esq., M.P., R. A. Christopher, Esq., M.P., W. T. Copeland, Esq., M.P., J. W. Childers, Esq., M.P., R. Etwall, Esq., M.P., H. Handley, Esq., M.P., C. S. Lefevre, Esq., M.P., W. Long, Esq., M.P., Wm. Miles, Esq., M.P., Jos. Neeld, Esq., M.P., E. W. W. Pendarves, Esq., M.P., P. Pusey, Esq., M.P., E. A. Sanford, Esq., M.P., R. A. Slaney, Esq., M.P., J. A. Smith, Esq., M.P., R. G. Townley, M.P., W. Whitbread, Esq., H. Wilson, Esq. From the same announcement we also perceive that it is purposed that it shall be one of the fundamental laws of the society, that no question be discussed at any of the meetings which shall refer to any matter to be brought forward, or pending in either of the Houses of Parliament. It is also suggested, that the society shall consist of two classes of subscribers,—the one to be called governors, subscribing annually 5*l.*; the other members, subscribing annually 1*l.*, either the one or the other to be permitted to become governors or members for their lives by the payment in one sum of the amount of ten annual subscriptions. Such is the proposed society in its objects, its supporters, and its basis, and in each of these respects we consider it highly calculated to ensure the approbation and support of all classes having either as producers or consumers an interest in the soil of their native land. By the zealous and patriotic noblemen and gentlemen whose names we give above much has been done—all, in fact, which individual energy and perseverance can accomplish; but the agricultural public must not fail to bear in mind that beyond the initiative their province cannot be extended; and it is now left to the gentry and the farmers as a great national interest to work out the path which has been opened to them, till it lead to those grand national advantages its successful issue is so eminently calculated to ensure.—*Somersetshire Constitutional.*

HIGHWAYS.—The period being now approaching when the appointment of the Surveyors of Highways takes place, it is of importance to those about to enter upon their year of office, to provide themselves with well arranged account books. A "Surveyors' Account Book," published by NOBLE, of BOSTON, Bookseller, has been brought under our notice, and we feel perfectly warranted in recommending it as the most simple and best arranged book of the kind that we have seen. This book contains a feature altogether new, namely, a schedule to be filled up by the surveyor, and presented by him with his accounts at the end of the year, wherein the then state of the bridges, roads, causeways, &c., &c., is set forth. This sort of report of the condition of the works under the superintendence of the surveyor at the expiration of his term of office, must not only be useful but satisfactory.

PRICE OF MEAT.—By an act passed in 1532, the price of beef and pork was limited to a halfpenny, and that of veal and mutton to three farthings the pound avoirdupois. See Sir F. M. Eden's "State of the Poor," 4to., vol. i., p. 98. Subsequent statutes renewed former penalties enacted against forestalling and regrating, that is, purchasing any commodities on their road to a market, and reselling them under four miles of it. Persons who bought up corn, or other articles of necessity, with an intention of holding them for future sale, were deemed unlawful ingrossers; and cattle were not allowed to be sold within five weeks after their purchase. The exportation of grain was also prohibited, when the price of wheat exceeded six shillings and eightpence the quarter.—Stat. 1st and 2d of Philip and Mary, 1553-4.

ON THE GLOBE MANGEL WURZEL.

TO THE EDITOR OF THE FARMERS' MAGAZINE.

Respected Friend,—Although I had no intention of resuming my pen on the subject of *Globe Mangel Wurzel* I feel impelled to do so from the respectful solicitations of two of thy correspondents, in the last No. of the Farmer's Magazine, relative to the best method of cultivating that root; and although the substance of the required information might be comprised in a brief space, a few remarks in detail, the result of practical research may not be uninteresting, especially to the young farmer, whom I nevertheless judge to be less entitled to that appellation than myself.

In the spring of 1836 I dug half an acre of good clay land and dibbled theron with finger and thumb some of the globe mangel seed, the soil being so tenacious as to occasion some difficulty in covering the seed; in an adjoining field (soil similar) which was manured with farm-yard dung at the rate of twelve two-horse carts to the acre upon a fallow after tares, in a very tilthy state, I likewise dibbled half an acre, on the ridge, in the same manner, viz., finger and thumb, rolling it afterwards. The same distance was observed and both sown in one day; in the first stages of growth the latter had a decided advantage but eventually the former took the lead and proved the most valuable crop, yielding upon an average 10*lbs.* per rod more weight, and but few superfluous roots, the other being much deteriorated from that cause. Last year I repeated the experiment upon clay with a very retentive loam subsoil broken early in the autumn, and good mixed soil land. The surface of the former at the time of sowing was so lashed and bound that dibbling in the manner before described was found impracticable, and the hoe was resorted to for farming drills in which the seed cast on the 13th of the 4th month (April). The latter was highly pulverised, manured with twelve two horse carts of farm-yard dung to the acre, and ridged, upon which the seed was dibbled on the 30th of 3rd month (March): the result was so similar to that of 1836 that I have concluded to manure and plough the land intended for mangel, as soon after harvest as is practicable, and as deeply as the staple will admit of, and slightly scarify in the spring, from a conviction that land too highly pulverised will, on most soils, prove injurious to this root. As far as my experience has gone, strong loams or clays are to be preferred for producing most quality, and dry bog for greatest weight. If sown on light turnip soil it should be well rolled after dibbling, particularly if on the ridge, and in the latter case the mould should be heeled from the plant as early as it can be done, and this operation continued till the land is reduced to a level, by this means all superfluous leaders will be checked in their infancy, the single tap root from which all fibres essential to its support and eventual perfection emanate, will become proportionably strengthened, and descend in search of nutrition to a much greater depth than is generally supposed.

Never having tried bone dust with mangel wurzel I am unable to speak to that point; but have found if applied for turnips on tenacious land its effect is often imperceptible. Mangel succeeds very well on such land with fish where it can be procured.

I prefer drilling or dibbling to any other mode if drilled on the ridge, the land should be first rolled with a heavy roller, the plant being often missed from depositing the seed too deeply. The time to be preferred for sowing is between the 1st and 14th of 4th month (April). Four pounds of good seed is sufficient for an acre if all plants stand, but I always use from five to six as the plants from being thick in the drill quickly draw up each other; are better able to endure an attack of the fly, and the sooner escape its power to destroy. Having now as far as experience has led me, endeavoured to render the information required, excepting the method of storing for the winter, which I intend furnishing at a more convenient opportunity, I beg leave to apologise for this intrusion, And am respectfully, thy friend,

Wm. MATTHEWS.

Claypits, Earls Colne, 3rd. Month 22.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR MARCH.

If we compare the weather which has been experienced, this month, with that at the corresponding period, in many preceding seasons, we shall find that, for a series of years past, the atmospheric temperature has not been so uniformly fine as has been the case this month. It is true, we have had some strong gales of wind, which have, in a few instances, dilapidated the thatch of out-buildings, &c., as also a few frosty nights. The former, however, have not been of long continuance; whilst the latter have only been productive of very thin ice. In the day time, so mild has been the weather, that the thermometer has often ranged between 58 and 60; whilst it has seldom been lower than 50 degrees.

Those out-door farm operations which are usually carried on, this month, have proceeded, to a great extent, under very favourable auspices, the sowing of oats being already concluded, in some of our great corn growing counties. The absence of much humidity has been productive of great and essential benefit, to our farmers, as the ground is sufficiently firm to bear the trampling of the teams. It appears to be the pretty general opinion of those engaged in agricultural pursuits, that farm labours, in general, are quite as forward as is usually the case in March.

The accounts which have lately come to hand, from our flock districts, intimate, that the early lambing season has been productive of a fine fall of strong lambs, and that the losses, from the excessive severity of the weather are, comparatively speaking, trifling. With respect to live stock, we have to state, that it is very healthy, although almost wholly subsisting on dry fodder, owing to there being so small a quantity of grass in the pastures and on the sheep downs.

We regret to learn, that in most parts of England considerable breadths of turnips are either wholly destroyed, or are lying rotting in the ground, caused wholly by the severe frosts. Turnips being almost indispensably necessary, for the feeding of both beasts and sheep, this circumstance is much to be regretted, as it will, we entertain not the least doubt, greatly increase the expences of the agriculturists, in causing an increased quantity of dry fodder to be consumed. However, we sincerely hope, that the effects of this failure will not be so severely felt, as we have been led to imagine, the more particularly are our hopes buoyed up, when we consider that the prevailing genial weather is causing the grass to grow very rapidly.

A great improvement is already apparent, in the appearance of the wheat plant; whilst it appears to have withstood the peltings of "the pitiless storm" exceedingly well; and but little has failed, except, indeed, in some very exposed situations.

In our markets, for the sale of farm produce, all kinds of fine corn have commanded a steady, other descriptions a sluggish sale. With the exception of the best wheat realizing enhanced rates, very little variation can be noticed in the quotations. The trade in the cattle and most other markets, has been on the whole dull, at about stationary prices, with moderate supplies on sale.

From Scotland, our reports are for the most part,

of a very favourable character, farm labour being well in its place, notwithstanding the coldness of the temperature. In the markets, trade has been rather dull, but no material decline in the currencies can be quoted.

Although much atmospheric obstruction has been offered in Ireland to ploughing, we are happy to state, that all farm operations, in this portion of the British dominions, are well in their place. The farmers' time being so much occupied, the supplies which have been of late offered for sale, in the corn markets, have been limited, yet the trade is by no means brisk, at but little variation in the currencies.

The relative position which we, in this country, bear to other nations in all parts of the world, considered in every point of view is, perhaps, of much greater importance than many, who have not given the subject the most mature deliberation, so that they may be enabled to form intelligent, legitimate, and proper views on the subject, possibly imagine. That this is a properly grounded position, no one, we feel assured will attempt to deny. But to what are we to attribute this great comparative pre-eminence? Why, most justly, to agriculture and our commercial operations. We, however, consider the former of by far the greatest importance to us, as upon it, we are solely dependent for our very existence—deriving from it, as we do, that without which we could not possibly subsist, and as it is a nation's only true riches. In thus attaching so much importance to that delightful and healthful occupation, in which the farmers of England are so usefully engaged, we are firmly of opinion, that every person will coincide in our observations, for it is well known to all, that the greatest importance has been justly attached in all ages of the world, to that sublime (for sublime it may with evident propriety be designated) employment. To such a height, indeed, was this opinion carried at one period of the Christian era, and even antecedent to it, that even the princes and other nobles of the land, in many parts of the known world (especially in Italy, which produced most excellent and philanthropic characters whose agricultural maxims are deserving of the eulogy and attention of all) personally superintended the farm labours, and even themselves were known to work in the fields, and handle the plough. This very laudable, and, in every respect, praiseworthy regard for agriculture and those engaged in it, we feel most happy in being enabled to assert, is not obliterated from the minds of the nobles of the present age, we find them taking so much general, and so lively an interest in the welfare and happiness of the tillers of England's soil. "One good action," it has been asserted, "is worth a dozen speeches;" to this truism we beg to attest our humble opinion, and so, in fact, appears to be the opinion of the higher classes, judging from those circumstances which have of late taken place, with respect to agriculture, and which appear to have most effectually aroused the dormant energies of our farmers; indeed, at no period within our recollection, do we recollect so much interest manifested by those to whom the subject is of so much vital importance. It is not without the most heartfelt gratification, that we learn of the first step having been taken for the formation, in England, of an agricultural association, which is intended to be placed on the same footing, and to have the same

object as that of the Highland Society of Scotland. It is, likewise, a great additional gratification and satisfaction to know that at the head of the list of supporters of this projected society, we perceive the names of the Duke of Richmond, the Duke of Wellington, Earl Spencer, Earl Fitzwilliam, and the Earl of Chichester, who, by their judicious and strenuous exertions in the cause, have done wonders for the agricultural interest.

Notwithstanding that the system adopted in the cultivation of the land by our present race of farmers, is a most admirable one, and much less expensive than was that practised a few years since, we feel assured that by the application of scientific plans we may even arrive at much greater perfection than that now adopted; whilst all with whom we have conversed on the subject, and who may be considered competent judges, from the fact of their whole lives having been spent in cultivating the land, appear to be of our opinion.

It is most sincerely to be hoped that the plans which are now in embryo for the formation of the before-mentioned institution, will not be suffered, by the supineness of those who have the means of contributing towards the funds of so desirable an object, to be rendered a nullity, for without adequate funds, it will be utterly useless to proceed successfully in the cause, as there is now a wide field wherein may be exercised, with much effect, the plans which may emanate from this society. But we dare hope that such will not be the case; whilst we would that every person, whether he may be actually engaged in, or deriving benefit from agriculture, should, without the least possible delay, enrol himself amongst the supporters of the society, which will be the most effectual means of advancing the plans, one of which is so admirable, that we cannot help noticing it very particularly, we mean the total exclusion of politics. This is as it should be, for it is our unalterable opinion, that they ought never to be broached, by those who may join together, for the purpose of benefiting any particular class of persons. The ill-judged introduction of the currency question, at the meetings of the Central Agricultural Society, had the effect, we entertain not the least doubt, of causing a great secession of members from it.

The formation of the proposed society will, we are confident, tend in a great measure, to make agriculture in a much more flourishing condition than it has ever yet been, by which means our national wealth will be enhanced far beyond present expectations. Will the foregoing assertions be for one moment doubted by the most sceptical, when we assert, that the total amount of income dependent on agriculture, amounts to the enormous sum of 151,900,000! This astoundingly large sum we have every reason to believe is as correct as it can possibly be ascertained; it being derived from very minute and interesting statistical information.

A meeting of the proposed institution, which is to be called "The English Agricultural Society," will be held at the Freemason's Tavern, on the 9th of May next, at which we earnestly desire to see a large attendance of the agricultural community. There never was, we consider, a better and more seasonable period, for the establishment of such a society in England. It has been admitted on all hands that the beneficial results which have arisen from the formation of the Highland Society of Scotland, (the plan on which it is conducted will serve as the basis on which the English society can be formed) have done more to bring the Scottish farmers from their low state of dependency, to their present

flourishing condition than all that has been attempted for many centuries. Hence we cannot conclude this subject, without once more endeavouring to impress upon the minds of the tillers of England's soil the great importance of, and the manifold advantages which cannot fail to be derived from the formation of an institution of this description. Our most fervent hope is, that success may crown the efforts of the projectors.

The attention of the farmers of Great Britain, has been this month, directed to the cheering prospects held out, for the cultivation of the waste lands in Ireland. The Irish Waste Land Company has it appears, already commenced most successfully, the tillage of extensive tracts of land, which at one period, were deemed wholly incapable of ever being cultivated; and arrangements have been made by them for the purchase of additional tracts. This is a subject well worthy the serious attention of every lover of his country, for, by the bringing of sterile lands into cultivation, it not only increases a nation's riches, but renders us less dependent for the supplies of grain from abroad, and greatly enhances us, in the estimation of the whole world. It has been proved, to demonstration, that the soil of Ireland taken as a whole, is the most productive of that of any country in the Universe. Why then should it be neglected? It has been asserted, that should the importation of corn from the sister country, be much larger than it has hitherto been, the value of that of English growth will be materially diminished: circumstances, however, have undoubtedly proved this position to be a fallacious one. We farther hope, that every success will attend the exertions of those noblemen and gentlemen who are now engaged in bringing into plough culture, the bogs and other waste lands of Ireland.

The following is a statement and comparison of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market in the course of the month.

Of beasts, the supplies have amounted to 10,294; of sheep and lambs, to 109,758; of calves, to 679; and of pigs, to 4,007. The greatest portion of the latter has been received from Ireland.

About 1,200 of the Scots and home-breds which have formed the above supply of beasts have come from Norfolk, 500 Scots from Suffolk; 230 Scots and runts from Essex; 113 Scots, runts, and Devons from Cambridgeshire; 200 short-horns from Lincolnshire; 1,320 short-horns from Leicestershire; 450 short-horns and Devons from Northamptonshire; 125 Scots, runts, and Devons from Warwickshire; 130 Devons and Herefords from Oxfordshire; 420 Aberdeen and Fifeshire Scots by steam packets from Scotland; 1,000 Devons from Devonshire; 1,132 Herefords from Herefordshire; 190 oxen and Devons from Sussex; 120 runts and Devons from Surrey; and 90 runts, Scots, Devons, and Herefords, from Kent. The remainder of the bullocks supply has been chiefly derived from the immediate vicinity of the metropolis.

With regard to the month's prices of stock, we can notice very little alteration in them, they being as follows:—beef, from 2s. 2d. to 4s. 4d.; mutton, 3s. 4d. to 5s.; lamb, 6s. 6d. to 7s.; veal, 4s. 4d. to 5s. 6d.; and pork, 3s. 2d. to 5s. 2d. per 8lbs. to sink the offals.

A STATEMENT and comparison of the supplies and prices of fat stock exhibited and sold in Smithfield Cattle Market, on Monday, March 27, 1837, and Monday, March 26, 1838:—

At per 8lbs, sinking the offals.

	March 27, 1837.				March 26, 1838.			
	s.	d.	s.	d.	s.	d.	s.	d.
Coarse and inferior beasts	2	4	2	6	2	2	2	6
Second quality do.	2	10	3	4	2	6	3	0
Prime large oxen	3	6	3	10	3	4	3	8
Prime Scots, &c.	4	9	4	2	4	0	4	4
Coarse and inferior sheep	2	10	3	0	3	4	3	6
Second quality do.	3	6	3	10	3	8	3	10
Prime coarse-woolled do.	4	2	4	4	2	4	6	6
Prime South Down do.	8	5	0	4	8	5	0	8
Lambs	7	6	8	0	6	6	7	0
Large coarse calves	4	6	4	10	4	4	5	0
Prime small do.	5	2	5	8	5	4	5	6
Large hogs	3	6	4	2	3	2	3	8
Neat small porkers	4	8	5	0	4	8	5	2

SUPPLIES.

	March 27, 1837.	March 26, 1838.
Beasts	2,700	2,694
Sheep	18,600	26,535
Calves	110	130
Pigs	530	754

By the above comparison, it appears, that the supply of Monday, March 27, 1837, embraced 6 beasts, more; 7,935 sheep and lambs, 20 calves, and 424 pigs less, than that of Monday, March 26, 1838.

The supply of sheep has been chiefly composed of South-downs, old and new Leicesters, Kents, Kentish half-breds, and Lincolns, with a few polled Gloucesters, Somersets, &c., as also about 1,000, by sea, from Scotland, and 200 from Hull.

The general quality of the beasts has been good; but we perceived a comparative falling off in that of the sheep, which latter circumstance may be attributed to the graziers being compelled to send their sheep to market, in many instances, in a half fat state, owing to the generally-complained-of scarcity of turnips. The whole of the lambs exhibited have been Dorsets, and, for the most part, of very superior quality.

A somewhat decreased quantity of slaughtered meat has arrived, from various quarters, up to Newgate and Leadenhall markets, at least compared with that received in the preceding month; the receipts being of carcasses of beef, 425; of mutton, 7,650; of veal, 4,225; and of pork, 3,241, the quality of which has been superior.

ESSEX.

The seasonable drying winds of the last week have so far dried the land as to enable the majority of farmers to make very great progress in all field work. Sowing has rapidly proceeded under the most favorable circumstances, indeed we never remember the lands being in a more friable and working order than they have been this seed time; on many farms sowing is completely finished, except on fields where the sheep are feeding off the turnips; and farmers are getting on with their lands intended for mangel and other green crops; it is probable there will be some mangel put in next week or the week following, as we observe some lands already ploughed and harrowed down ready for the drilling of that seed. We have not yet seen any spring crops out of the grounds (except peas), we can of course form no opinion as to future probabilities affecting them beyond a suspicion that, considering the highly pulverized state of the land, the wire worm will be busy in destroying much unless the precaution of a good rolling is adopted; we are persuaded many a good crop of oats is lost by not sufficiently rolling the land after sowing—solidity being so essential to the growth of that grain; we know a farmer who makes a point of rolling all his oat lands two or three times with

a heavy roller, as he considers it repays the labour and expence attending it twenty-fold. We cannot form a very decided opinion as to the state of the wheat plants, but consider the injury done by the severe frosts and subsequent cold weather, very great. When the frost went, the land heaved, and the cold winds getting underneath the roots, much has perished; and on minutely examining a field the other day, once excellent in plant, we came to the conclusion, that it would be necessary to plough it up and put in some spring corn; the roots appeared totally perished and rotten, and where there was anything like a blade, it was nothing more than a twin piece rapidly decaying. We have made inquiries, and find that a considerable quantity on the best light lands to be in the same condition; on the heavy lands they continue in very fair plant, and may do well with warm weather. We think immediate treading with sheep, harrowing, and rolling, the only remedies worth trying, they have been known in many previous instances to answer well. Sheep have continued to do well at turnips, where there has been any of that root left uninjured by the frost, but they are going very fast; as we observe no blade this year, we should say two-thirds of the white species of that root was completely destroyed in our county. We see sheep in various directions scattered over large fields, there not being a sufficiency to pay for folding, and yet, strange as it may appear, hardly a lot of couples have been shown at our markets; we can only account for it, that breeders are wishing to clear off large breadths of their injured crops for sowing the land, the crop not paying for standing longer, and then we may probably have a great quantity. We think, on the whole, the lambing down has been very favourable, and few ewes or lambs lost; we do not see that very great quantity of couples about as we see some seasons. The price of lamb has begun somewhere about as usual, 7s. per 8lbs. About this time the sheep are usually infested with lice. Where it is the case they should be immediately dressed, as they get off the ewe and very much worry the lamb, and prevent that quietness and ease so necessary to anything fattening. Mutton and beef continue at pretty good prices, and our corn markets have been upon the rise.—The grand annual attack upon the corn laws has signally failed, just as every well-wisher to his country's prosperity must have desired and anticipated. In the list of ayes to their repeal we find but very few landed proprietors; principally of the Hume and Grote stamp of politics; and we do not fear, from such a phalanx of opponents, the corn laws stand in any or even the least danger. "If the corn laws were repealed (says a morning paper) the price of food would sink considerably, and the manufacturing labourer would have his wages immediately lowered to the level of the cheaper food with which he could be supplied. It is because his wages are so high, that the foreign trader finds it difficult to compete with him. The price of continental labour would, therefore, accompany continental prices of bread. Half of the English agricultural labourers would be thrown out of employment. They would be driven into the large towns, there to beat down yet further by their competition manufacturing wages, already, by the inevitable supposition, reduced to the continental level, and there to augment the mass of human misery which has already converted towns of the stamp of Manchester into earthly hells."—We are very much grieved to see the establishment of the Anti-Poor Law Society, but we believe it will end in a total failure; the abolitionists of that measure are too much under the influence of hearsay evidence of its

cruelty, than the actual observers of its practical working. We are persuaded that, worked as it has been, by a board of respectable practical guardians, not too much influenced by the commissioners, it has done for Essex what its most sanguine promoters little anticipated. It has clothed the really naked, it has fed the really hungry, and the idle it has sent empty away. Scripture has said, "Man shall live by the sweat of his brow," and if man refuses to do this, and poverty is the consequence, why this outcry against a measure which says no more? Never of late years were the poor in our parishes better employed; and what was formerly given to the overseer to distribute for the encouragement of vice in every form, is now given by the hand of the farmer for labour, and he receives the gratitude of his labourer, instead of low abuse and insolence as formerly. We have heard of no cases of starvation and cruelty in our union, and feel convinced the rate-payers of our district would be equally distressed at any occurrence of the kind, as would my Lord Stanhope, or Messrs. Oastler and Stephenson. We are very glad to find there is now some very fair grounds to conclude a society will be formed for the purpose of improving agriculture solely. We have not the least doubt of its succeeding, and the country must feel obliged to the *Mark Lane Express* for its able advocacy for the establishment of such a society. The prospectus is right—may its detail be found equally as good. No politics, and all will be right. The science of agriculture is a manly pursuit; may it find in the society a patron to encourage its future discoveries, and to bring to light those hidden resources and mines of fertilizing qualities which agriculture, till now unforfeited, has been unable to accomplish. We had hoped at the commencement of the year that a boon had been granted the agriculturist by Mr. Murphy, the Weather Prophet, but subsequent experience has taught us that He who directs the wind and guides the storm, is the only being who knows what a day shall bring forth. The times and the seasons are in the hands of Him alone who has promised that seed time and harvest, summer and winter, shall not fail! We have just room to notice a society which is extending far and wide its ramifications, and if it progresses in its present ratio, it will materially affect the agricultural interest. It is called the "Total Abstinence Society," and levels its deadly hate against the use of all fermented liquors, and in its embrace it already numbers an immense body of members, who bind themselves to drink nothing but tea, water, and coffee. The arguments it uses are certainly very powerful, and if it continues to progress as it has done lately, it will materially tend to limit the consumption of malt. Till we heard those arguments, we were powerfully impressed with the injustice of the malt tax, but the question we now ask ourselves—would not its repeal fearfully increase drunkenness and immorality? And God knows there is enough of that amongst us now. Those well acquainted with the northern counties tell us that beer is seldom used by the agricultural labourers, and yet they are a far harder race of men than those who use it in the more southern. Who would not among us, as a body possessed of one spark of philanthropy, who would not sacrifice to the spirit of temperance, what interest he may have in upholding those gorgeous palaces for human woe, to sell his barley distilled into spirit, to curse every family into which it goes, to blast the fairest scenes of Heaven's creation, and demoralize the man who was made but a little lower than the angels. The beer-shop has done its most

to demoralize the country, and it was reserved for the gin-shop to brutalize and inhumanize our cities.

NORFOLK.

A suspension of all the active employments in husbandry during the whole of January and February, has necessarily left a more than ordinary quantum of field labour to be performed in March and April; consequently, although no time has been lost, since the final breaking up of the winter, in preparing the land for spring sowings, much of that work remains to be done before the grain can be deposited in the soil. The planting of peas and beans perhaps is nearly completed; the sowing of oats is also partially effected, and upon the light soils that require but one ploughing, some barley may even have been put in the ground; but generally speaking, the sowing of spring corn can scarcely be said to have commenced, or is it likely that it will have done so in less than a week or ten days; and moreover, although the lands cannot be said to work unkindly, there has been too little dry weather in the present month to bring them into that state of mellowness which we are accustomed to expect after their having been exposed to the action of frost similar to that which we have recently experienced. Vegetation is unusually backward, nevertheless there is no want of cattle-food; on the contrary, we have seldom observed so many turnips remaining in the fields at this season of the year, as there are at the present moment; those of the white variety, which ought to have been long since taken off the land or ploughed into ridges, are certainly more than half rotten, but the Swedes are still sound and more nutritious than might have been expected; since this fact has been ascertained, the demand for lean cattle and store sheep has been proportionably increased, and as such higher prices have been obtained for them, even although, it is but too evident, that the value of fattened beasts is not such as to warrant the procuring of lean ones at a high figure. The wheat partakes of the backwardness of the season, and moreover much of that which was late sown, appears to be deficient in plant. We have seldom observed the wheats to germinate so slowly after they were planted as was the case last autumn—in short many of them were not fairly out of the ground, when the frost set in, and since it has broken up they seem rather to have disimproved than otherwise, but it is yet too early to form any correct estimate of the ultimate tendency of this apparent deficiency; a more notable instance, in which a miserably thin plant in the month of March produced a most extraordinarily bountiful crop at harvest need not be cited, than that which occurred in the spring of 1836, when many of the wheats were so thin that it was questionable whether or not they ought to be ploughed up, and the land re-sown with other grain; yet, as it is well known, the crop of that year and even of those lands which exhibited the greatest deficiency of plant, exceeded that of any year for a very long period antecedent thereto.—March 23.

SOMERSETSHIRE.

It is some time before the effects of the very severe frost on the crops or ground can be fully ascertained, but it is very apparent even on our best pasture and the richest arable, occupied by wheat, that something more than usual has transpired; every appearance of spring, which at this season seldom fails to appear, is wanting of its forwardness. To begin with that which is of the most importance, wheat, considering the fine weather we have had lately, it has apparently made but slow

progress, and there seems no vigour in the little growth it has made; no doubt but a good deal of the plant is destroyed, and the season must be very favourable for it to ride sufficient to be an average burthen of straw: on our turnip lands the frost has loosened the earth from the roots, and should we have some dry cold east winds, it must suffer on high soils from this cause. We are now very busy planting beans, they go in as favourably as they can, even our stiffest clays working better than we remember for years. Oat sowing will soon commence: of this article expect there will be rather a large breadth sown this year on soils where Barley does not answer, unless sown early. There will be a great deficiency of artificial green food for sheep the next month, the turnips being mostly affected by the frost will yield but little, and the vetches are looking brown; and it will be (from present appearances) late before they make any vigour or growth, and when they do, from their lying so thin on ground, there will be but a light burthen. Hitherto our sheep have done well, the little wet we have had has been favourable where they have not been too hardly kept, but expect it not unlikely we shall feel the want of keep for them more than we have hitherto done. Owing to the shortness of hay last year our dairy cows have come in late, and we quite expect when even there is a prospect of a plenty of keep cows and calves will be in much demand, as the precaution that was generally resorted to to save the consumption of hay has tended to make stock scarce; already the price of cows and calves are high, and although recently there has been some depression in the value of poor stock the price which the grazier has, and must purchase at if he goes to the market, are such as to leave him no hopes of a fair remuneration. At some of our late fairs it was calculated that bullocks which would graze about 30 score were worth within 2*l*. of those fat of the same weight, and this seems to have checked the eagerness of the graziers to purchase. There is also a good demand for sheep in consequence of the high price of wool; the general opinion is that this article has seen its best time; there is a decided decline of 1*d*. per lb. in our coarse combing sorts with less demand, while Horn and Down is not so eagerly sought after, and will scarcely fetch 1*s*. 6*d*. per lb.; a few weeks since 1*s*. 7*d*. was made of these qualities. There is a decline in the price of cheese of 3*s*. to 5*s*. per cwt. Our wheat market has not advanced in proportion to the London market, but there has been a falling off in the supply the few weeks past, and from my best information I should infer that the stock of wheat in the farmer's hands is considerably less than at this season last year, and by no means a larger quantity than at the same period in the hands of the millers, and I should say the quantity in the hands of dealers was never less; the millers have been almost the only dealers in the article this season, in this county I do not know of an exception. Barley has declined in price, the supplies being large, at present they are falling off, and it is rather expected they may advance. For oats the demand is good, and there are few in the market. Beans are still a dull sale and have remained stationary in price. There has been a brisk demand for red cloverseed, there are a good many samples offering, but the qualities of few are prime. Our prices for the last month for corn has been as follows:—wheat, 7*s*. to 7*s*. 9*d*.; beans, 3*s*. 9*d*. to 4*s*. 6*d*.; barley, 28*s*. to 30*s*.; malting, grinding 24*s*. to 28*s*.; oats, 18*s*. to 26*s*.; flaxseed, 40*s*. to 44*s*.; flour, 42*s*. to 44*s*.; red clover seed, 58*s*. to 72*s*. Beef, 8*s*. 6*d*. to 9*s*. 3*d*.; mutton, 6*d*. to 6½*d*. per lb.; veal, 5½*d*. to 7*d*.; pork, 8*s*. 6*d*. to 8*s*. 9*d*. per score.—March 16.

BEDFORDSHIRE.

The first quarter of the year 1838 has now nearly rolled away, but the recollection of its severity will not so soon be obliterated. Our worst forebodings have been realised as regards the damage from the frost. At

the time our last report left us, though we knew all the turnips of the common kind were gone, and much of the mangel wurzel, still we indulged in the hope that most of the Swedes would stand. But the sequel proves the reverse. Nearly all the purple topped Swedes are decayed, and many others of the finer varieties have this year come to a sad untimely end. We hardly need say to men of business, that these circumstances are most serious to the holders of stock; for the immense expence they incurred during the frost in getting up the turnips for the sheep, together with the loss of a great part of those unconsumed, will render the winter grazing this year in many cases a most unprofitable concern: and the further expence of carrying the sheep through to the time of stocking the young grasses, will be very heavy. In our last we were also quite unwilling to regard the effects of the frost upon the growing wheat as of serious magnitude; it is now, however, beyond speculation, greatly damaged, particularly upon the light chalky, and thin gravelly soils. Much of the plant is quite perished and a good deal of what remains seems deeply injured; the crop has suffered least on the strong soils, but even there it is weak and backward, so that, upon the whole, present appearances at least are very unfavourable for a good crop of wheat. The very early part of the lambing season, from the great severity of the weather, was attended with great losses, the sheep generally lambing without any milk. During the latter part of the season, however, they have gone on better, but in the absence of everything green upon the ground it has been very difficult to keep the young lambs going on. The beans, peas, and oats, are for the most part got into ground, and, though not so early as usual, still they have gone in well; and may yet make a good crop. A considerable breadth of barley is also sown by our first class farmers; those who are always for having things "as they were in the beginning," will probably commence next month: these sometimes succeed in growing a little bulk, but in nine seasons out of ten, the quality is greatly inferior, and sometimes in adverse seasons they will get neither straw nor corn. The Corn Markets remain stationary since our last, except wheat, which we presume, from the unfavourable appearance of the growing crop, together with the certainty now that there will be no infraction upon the corn laws, is somewhat improving in value. And, if the repeated statements of Mr. Jacob before the House of Commons is to be at all relied upon, viz., "that the United Kingdom on an average of years does not grow near corn enough for its own consumption," then seeing there has been no importation of importance, for home consumption, for the last five years, the great probability is, that wheat will continue to improve in value till it gets nearer the price at which importers can pay the duty on foreign corn. We were glad to find by the late division in parliament upon this question, that the present corn laws appear to be better understood, and more highly appreciated than formerly, in fact the universal quiet that is observed in the manufacturing districts on this subject, is a striking proof that the people begin to find that they are abundantly more deeply interested in obtaining full employment, with fair remunerative wages, than becoming the mere tools of a designing faction, who have attempted to raise the cry of "Cheap Bread" merely for speculation and mercenary purposes. In short, our own conviction is, that the present laws relating to a foreign supply of corn are based upon just and sound principles, namely, of keeping out the foreigner when we have plenty of provision at home for the people: but if adverse seasons come, then the supply of foreign countries is welcomed by a scale of duties falling off with the increased wants of the people, till it becomes quite free!! Some little improvement perhaps might be made in adjusting the scale, but a better and safer system (in principle) for the consumer, as well as the grower, will never be devised!!—*Bedford Beacon*.—March 23.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

KELSO HORSE MARKET.—There was a greater show of horses than has been witnessed for several years past. The market was literally crowded with them, many of which were of a superior description, while the attendance of dealers was very numerous. Superior work horses were much in request, and brought high prices, averaging from 35*l.* to 45*l.* each. Those of second rate quality were purchased at from 20*l.* to 30*l.* each. The demand for good hacks was considerable, and several sold at high prices.

TORRINGTON FAIR, March 17, was crowdedly attended; the whole town was occupied by dealers from the East country, so that every bed was occupied, and many content to put up with half a bed rather than plank it. The supply of cattle was however very thin, and some of the old attendants at the fair say that they have seen often twice as many bullocks as were present. The fair is noted for poor cattle and working oxen, it being in the heart of a breeding district, and stock of this description being in such demand, sold readily at advanced prices; good barreners may be quoted at from 5*s.* to 7*s.* 6*d.* per score, good plough oxen were sold from 13 to 20 guineas each. A gentleman of the neighbourhood of Exeter offered 20*l.* each for plough oxen, but could not get even a hearing. In fact there seems to be but very little difference, comparatively speaking, between the price of a grazing heifer or a fat one, especially if the former be of a good breed. This is owing to the great scarcity of poor cattle, the herds of which have not recovered the thinning they experienced under the hands of the Eastern dealers last year, as then noticed in the *Western Times*. Of fat beef there was hardly anything, and of course but little to be said. Sheep very few and at late quotations.

BAMPTON GREAT MARKET on the 21st had a greater show than we expected to see, from the scanty supplies of other fairs. They were all sold at strong prices. One very magnificent heifer, bought by Mr. Prowse, of Thorverton, will be exhibited at Exeter Market at Easter. It was bred by Mr. Merson.

WEXFORD FAIR.—This fair was fully supplied with horses, horned cattle, sheep and pigs—the two former being of a very inferior character. Pigs maintained from 36*s.* to 38*s.* per cwt. Stores from 18*s.* to 30*s.* In-calf cows averaged 8*l.* to 12*l.* Sheep and hoggets, 20*s.* to 40*s.* The few horses which were offered returned with their former owners. On the whole, (with the exception of pigs), this fair was not very encouraging to farmers.

TAGHMON FAIR was very amply supplied with all descriptions of stock. Pigs averaged the quotations we have given above for the Patrick's Fair, but horned cattle maintained a shade higher, being of a better description. A great deal of business was transacted; and both sellers and buyers appeared satisfied with the result of the day's business.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.—Exertions commensurate with the importance of the occasion are making in the Western Counties for the Great Cattle Show, which is to be held at Glasgow during the ensuing autumn; and such is the spirit which actuates the members of the society resident in Glasgow, that they have authorized Dr. Cleland and Mr. Mungo Campbell, jun., the Interim Local Secretaries, to enter into an agreement for erecting a splendid hall for the friends of the Society to dine in after the business of the Show is over. The hall will accommodate 1,500 persons without galleries, or 2,000 with them. The popularity of this Society in Glasgow is such, that in the course of a very short time the Local Secretaries found no difficulty in procuring as many new members as will add one thousand guineas to the funds of the Society; and before the Show takes place, we have reason to believe that that sum will be considerably increased.—*Glasgow Herald*.

DALKEITH AGRICULTURAL SOCIETY.

The show of seed corn and rye-grass, for the premiums offered by this society, took place on the 8th March, when the Judges, Messrs. Charles Lawson, seedsmen to the Highland and Agricultural Society of Scotland, Robert Dale, farmer, Libberton West Mains, and Ro- Oliver, farmer, Turniedykes, awarded the premiums as follows:—To Mr. James Verner, Hillhead, for the best 10 quarters of potato oats. To Mr. James Bertram, Smeaton, for the best 10 quarters Hopetoun oats. To Mr. Ainslie, Fordel, for the best 10 quarters early Angus oats. To Mr. Ainslie Murray, for the best 10 quarters grey Angus oats. To Mr. Torrance, Lingerwood, for the best 10 quarters Dun oats. To Mr. Gray, Dalhousie Mains, for the best 10 quarters Barbachlaw oats. To Mr. Handasyde, Inveresk, for the best 10 quarters of Chevalier Barley. To Mr. Proudfoot, Inveresk, for the best 10 quarters Scotch barley. To Mr. Roughhead, Haddington, for the best 10 qrs. perennial rye-grass. The beneficial effects of such associations as this were most fully exemplified in the present exhibition, as we believe there has seldom, if ever, been such a quantity (there being no less than 520 quarters) of such fine quality of grain shown at one time as was brought forward on this occasion.

BRISTOL WOOL FAIR.—There being a much greater quantity of wool in the market this fair than for some years past, the buyers were at first induced to hold off from purchasing, with the hope that the quantity would affect the price; but combing wools being in demand and the extra quantity arising in a great measure from the transit to the north markets being impeded by the frosts, the holders have been enabled to maintain their prices; which for long wools, may be quoted at 4*d.* per lb higher than our last fair; but short wools have not advanced in proportion, there not being so great a demand; but should long wool continue at the present demand and price (of which there seems to be no doubt in the market), then short wools would soon advance from 1*d.* to 2*d.* per lb.

PLOUGHING MATCH.—A ploughing match, under the auspices of the West Teviotdale Agricultural Society, took place on the farm of Mr. Hall, Hassendeanbank, upon the 14th of March. Thirty-nine ploughmen, with excellent horses and accoutrements, were on the ground pointedly at nine o'clock, and shortly after started in splendid order. A great concourse of spectators were on the ground; and upon the whole it was a very gratifying and delightful scene. The respective ploughmen having completed the portions assigned to them before two o'clock, the judges, Messrs. Rutherford, Ancrum, Craig, Haldane, Standhill, and Lambert, Lilliesleaf Mill, shortly thereafter came upon the ground, and minutely examined the different lots; and it is only doing justice to the parties to say, that out of thirty of the competitors, the judges had much difficulty in awarding the premiums—the work having been performed by them in such a superior manner; however, after great pains, they awarded the premiums as follows, viz:

1. To A. Wood, Hassendean, No. 4	£2	0	0
2. To John Thomson, Hassendean, No. 2	1	15	0
3. To Wm. Pyle, Fenwick, No. 1	1	10	0
4. To John Dickson, Braxholm, No. 38	1	5	0
5. To Wm. Grieve, Lilliesleaf, No. 30	1	0	0
6. To Wm. Fairbairn, Cleithaugh, No. 12	0	15	0
7. To Thos. Grieve, Deanfoot, No. 36	0	15	0
8. To Wm. Scott, Courthill, No. 35	0	10	0
9. To Mungo Scott, Standhill, No. 24	0	10	0
10. To Alex. Dodds, Clarinlaw, No. 22	0	10	0

£10 10 0

After the labours of the day, the judges and a respectable party were entertained to dinner, &c., by Mr. Hall. Everything went off well, and no accident occurred.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF MARCH.

Throughout the past month, if we carefully investigate the state of the markets throughout the United Kingdom for every kind of agricultural produce, there is scarcely any article which is calculated to diminish the satisfaction we have of late derived in marking the ameliorated condition of the agriculturists. More especially is this the case in reference to the prices of Wheat, wherein a general tendency to improvement has been evinced in all the leading markets of England, Scotland, and Ireland, the currencies having generally advanced 3s. to 4s. per qr.; the supplies continuing to prove extremely limited from the growers, and though fully aware that the falling off in the receipts from the farmers, is to be attributed for the moment to their whole attention being directed towards sowing, and which in England has progressed latterly under favourable auspices, yet still the fact must not be lost sight of, that the deliveries into the principal markets of consumption have during the current season rarely kept pace with the demand; while the fact is becoming apparent that the stocks in warehouse and granary have not for several seasons been reduced to so low an ebb, and farmers are becoming aware, that in many localities, there is being effected a premature clearance of the rick-yards. The portions of England, where the crop is generally acknowledged to have failed, are the Southern and Western districts, and it is therefore subject of enquiry from whence the compensating quantity of wheat will be obtained to equalize these deficiencies. By some it is thought, that the northern counties of England, we mean more especially, Yorkshire, will have a surplus quantity beyond the more immediate demand from adjacent counties, to export to more distant divisions of the kingdom; the context to this opinion is, that previous to last harvest extensive draughts had been made upon the Yorkshire stocks of old corn, principally on Scotch account, and the resources were consequently diminished when the new produce was secured. During the depression in the manufacturing districts, and the falling off in the consumption at Manchester, Birmingham, and circumjacent districts, the operatives of the West Riding have been more fully employed than those of Warwickshire, Staffordshire, Cheshire and Lancashire; while the consumptive demand dependent on the two large grain markets of Leeds and Wakefield, will, in all probability, clear off the usual supplies received from the more approximate parts of the Eastern and Northern Ridings, and the Northern portions of Lincolnshire, and that if any materially augmented supply is obtained from those districts, it can be only effected, and we believe even then to

limited extent, by a decided enhancement of the prices. One circumstance, however, must not escape our attention, that the new growth of wheat is by no means a *storing* crop, that few farmers will be induced to reserve the last yield of corn beyond the current season, the immature state in which much was housed, has prevented the due formation of the skin and consequent protection of the *farina* from the changes of the weather; few seasons, therefore occurring when the condition of the grain has been more susceptible of atmospheric influence, while much having been exposed to wet and moisture before securing is deteriorated more or less in quality; and though farmers have in their power from the circumstances often alluded to, of remunerating prices for agricultural produce, and pecuniary facilities by the increased establishment of Joint-Stock Banks, to keep back their corn, and dole out their supplies commensurate with the demand; yet the retaining of the new stock in any quantity, even if practicable, would be attended generally with too much risk, to warrant the policy of the speculation. As to those counties from whence the metropolis draws its supplies, there may be in Essex, Suffolk, and Norfolk, a moderate average quantity, but even in these counties great disparity of quality prevails, and though the demand which has been experienced for shipment to more distant parts from Essex, and consequent diminution of its resources, may be met by the surplus produce of Kent, where we are induced to believe the farmers have been more favoured than in any other county; yet we cannot calculate on any material deficiency in other divisions of the kingdom, finding commensurate supplies from our home counties, without forcing the London market to import from an extended radius, or beyond the usual boundaries of its consumptive supplies. In Scotland the decreased breadth of land sown, shortness of yield, and disparity of quality, exclude much probability of our receiving supplies from thence; but, on the contrary, the chances are, that shipments will be required from England as the season advances, to render the ordinary Scotch wheats available for the millers, and symptoms of which are already discernible, by the enquiries on the London market of Scotch houses. From the above, then, it appears evident that more than a usual degree of importance is attached to the resources of Ireland, from whence, as is customary, the accounts have been extremely conflicting, and to which we have more than once pointedly alluded. No doubt the harvest was more productive than in either England or Scotland; though the extent of land cultivated was, from the unfavourable cha-

acter of the previous season, much less than intended. An exhaustion of the old stock was experienced before the new produce was secured, which has rendered the current demand dependent on the last harvest. Already extensive draughts have been made on the stores, which may be instanced at Liverpool, by a comparison during the six months succeeding the harvest of the three last years, viz., from Sept. 1 to March 1 in each year.

1835-36.		1836-37.		1837-38.	
Wheat.	Flour.	Wheat.	Flour.	Wheat.	Flour.
qrs.	sacks.	qrs.	sacks.	qrs.	sacks.
160738	177919	73582	131160	117573	186589

In addition to these augmented shipments, large quantities of Flour during the current season have been exported to Wales and Cornwall; from Limerick, Waterford, and Cork alone, they have amounted to upwards of 80,000 cwts. to Wales, and 35,000 cwts. to Cornwall. Besides that the improvement which is happily being wrought in the condition of the Irish farmers and peasantry, is gradually extending the consumption of Wheat Meal, leading, therefore, to the inference that the superabundance of the Sister Island cannot prove so excessive as to check the advancement in the currencies which may reasonably be expected from the nature of the stocks on hand. Thus the state of the markets will be rendered more than usually influenced by the aspect of the fields, and the favourableness of the weather, circumstances tending to sudden fluctuations, and requiring the vigilance of farmers, not by overstraining the point of profit, to force into the consumption larger parcels of foreign Wheat than may be absolutely required, recollecting that every 1s. decline in the duties is an extra inducement to speculators to enter their wheats even at comparatively a high duty, rather than incur the ruinous granary charges and landing expenses. Besides we have the evidence of the past season that millers can afford to pay an excessive range of duty, having over the home market so material an influence that they can regulate, to a certain extent, the current prices of the native qualities, to allow them to work up without loss the finer foreign wheats, even with a duty of 31s. 8d. and 33s. 8d., and that an import of foreign will take place before the close of the year, is an opinion from which few now dissent.

In *Scotland* the progress of sowing has been interrupted by the stormy state of the weather, and inland in the more northerly districts, snow was, during the last week of the month, to be seen on the ground; in favoured spots, however, some considerable progress has been made in getting in the seed. The wheat trade remains firm, and a gradual and general enhancement has been experienced for all the finer qualities; and though the supplies are more than usually short, from the engagement of the farmers in out-doors labour, yet the reports are prevailing, that when the field operations are concluded, the farmers in many of the northern divisions have not grain to

increase the deliveries; from *Aberdeen* it is stated that many growers have not produced "seed and bread" and consequently those who hold any surplus grain are retaining it for higher prices. Fine bright barley has obtained fully 1s. to 2s. per qr. more money for seed, as well as oats; but the ordinary descriptions of barley continue to hang heavily on hand.

In Ireland the weather has been very unfavourable, rain, sleet, and snow have offered an effectual barrier to any advances in the preparation or sowing of the land; and even in the most early districts comparatively little spring corn is yet got into the ground. The supplies of wheat continue for the most part limited, and finer must be noted 2s. to 3s. per brl. dearer; at Dublin red wheat is now noted as high as 35s., and white 37s. 6d. per brl. Holders of oats seem strongly impressed with the feeling of much higher prices ruling than those at present obtained, and are becoming "rather wild" in their demands, compared with the prevailing currencies; the advances during the month realized must be estimated at 1s. to 1s. 6d. per brl., and 11s. 6d. to 12s. currently asked for 40lbs. oats, Galways, 10s. 6d. to 11s.

In *Mark Lane* the supplies of wheat have been on a limited scale from Essex and Kent, as well as Suffolk, and millers have taken off, weekly, the finer qualities at a gradual improvement of 2s. to 3s. per qr.; an animation continuing perceptible in the trade, and causing each succeeding market to close with a firm aspect; this enhancement in the value of the raw material, led to the enhancement of 3s. per sack on flour, 55s. being the nominal demand, and 52s. to 53s. the selling price. This rise, however, it has been found difficult to establish, all the leading millers not agreeing, and bakers expressing reluctance to take flour at the new rates, especially that portion of the trade who do not rank with the top-priced bakers, and who sell at lower rates to the poorer classes. The market has, therefore, been rather checked in its briskness, and last Monday much less life was apparent, and though quotations were unaltered, yet only the selected parcels were saleable at the terms. The improved aspect of the free trade has naturally conducted to an advancement in the demand of bonded holders, and 2s. to 3s. per qr. higher rates are now required, though few speculative sales have been made at the improvement, purchasers generally preferring to transmit their orders abroad. Many speculators, however, it is said, refrain from sending their orders, under the impression that the foreign markets are already encumbered with earlier orders, and no chance therefore of their execution, but which, from the latest accounts from the principal places of shipment, does not appear to be the case; we mean, that the orders are by no means so extensive as to prove equivalent to the anticipated supplies in spring at the leading German and Prussian ports. In bond, in London, good Danzig wheat has obtained 40s. to 44s., red Rhenish, 34s., Baltic, 32s. to 35s., old Kubanka, middling quality, 30s., soft Russian, 24s.

The receipts of barley have been large during the month, amounting to 60,000 qrs., bright malting and stout qualities of distilling, forming a small proportion of the bulk, have found ready sale at the previous rates, but intermediate qualities of each description, as well as inferior and stained parcels, have met a dull, dragging trade, and prices with difficulty supported; but the currencies having already attained a low range, no further positive depreciation could be well expected. Malt of prime quality has been taken off as it appeared at former prices, and the stocks contracted within very narrow limits, while secondary and ordinary sorts have hung very heavily on hand.

The importation of Oats from Ireland have instanced the prolific character of that country as forming the oat granary of these realms, exhibiting the capabilities of that rich and fertile kingdom to administer to our wants, requiring only amelioration of government, and a fostering, kindly, and brotherly spirit, to render it, as it is fated to be, the brightest jewel of our crown. But, reverting from this digression, the quantity of oats we have received from the sister island have amounted to nearly 95,000 qrs., and yet, notwithstanding this influx into our port, prices have been sustained, and factors enabled to resist every effort on the part of dealers and consumers to reduce the currencies,—bearing out fully our previous month's predictions. The free on board trade in Ireland has been materially checked by the advanced rates shippers have been induced to demand, which are fully 1s. 6d. per barrel higher than at the close of February.

The stock of beans getting into fewer hands, have rallied, and good dry qualities obtained 1s. to 2s. more money. White boiling peas receded at the commencement of the month 1s. per qr.; grey and maple advancing to the same amount, since which they have been steady, especially the latter; white non-boilers have been almost unsaleable, and blue, unless fine, very heavy sale.

The only alteration in the duties is a decline of 1s. per qr. on wheat, 1s. 6d. per qr. on rye, and an advance on beans of 1s. 6d. per qr.

In Canada, business was still unsettled, and as the frontiers were being threatened by strolling bands under different rebel commanders, a certain degree of excitement still prevailed, as inimical to commerce, as it was to agricultural proceedings. At *Toronto*, now the capital of the Upper Province, the supplies were coming rather freely to hand, as the roads were in good order for sledges, and enabled the farmers to bring their produce readily to market; good wheat was noted at 6s. 3d. to 6s. 6d. per bushel; flour, 5 dollars to 6½ dollars per barrel. At *Kingston*, wheat obtained 5s. per bushel, and flour 18s. to 20s. per cwt. At *Montreal*, wheat was held at 7s. 6d. per minot,

Owing to increased supplies at *Hobart Town*, *Van Diemen's Land*, the prices of wheat had rather receded, the range being from 7s. 6d. to 8s. 6d. per bushel; best fine flour, 20s. to 22s. per cwt. In con-

sequence of a fall of rain, which was much needed, the crops throughout the country had assumed a very promising appearance.

At *Kingston, Jamaica*, the market for flour, owing to the limited nature of the supplies which during the year had not amounted to half the quantity received during the similar period of 1833, and being also less than required to meet the consumptive demand, was becoming firm; the freshest superfine having been sold at 76s. 8d.; a large cargo of flour had however arrived from *Hamburg*, amounting to 4,500 brls., which had checked the trade for the moment.

In the *Mauritius*, European wheat was firm at 3 dollars to 3 dollars 50 cents per 108lbs.; *Danzig* flour 8 to 10 dollars per 196 lbs.

The large supplies of wheat from the Black Sea into the ports of *Leghorn* and *Genoa*, have completely checked all speculative investment in the article; at *Naples* several houses who had been previously purchasing, have now quitted their stocks of *Barletta* wheats, and many smaller holders being induced to follow their example, has for the moment rendered the currencies perfectly nominal. At *Trieste*, the demand for grain being confined to the local consumption, the trade ruled dull, and prices receding, Italian and *Odessa* wheat being noted at from 25s. 8d. to 30s. 10d. per qr.; *Linseed* 32s. 6d. to 37s. 9d.; *Giorgiolina* seed, 51s. 6d. to 53s. 3d. per qr. Flour, first quality, 27s. per brl.

In France an improved feeling seems becoming prevalent in favour of Wheat, and though the markets have been kept in fair supply, higher prices are being realised; no doubt the speculative tendency of the trade is mainly induced by the reported injury the young wheats have sustained; but some purchases are being made on the ulterior prospects of the stocks proving short before harvest. The actual damage however sustained is principally in the finer white wheats, and the fields sown with *Barletta* corn seem to have suffered materially. Spring seed wheat is much in demand, as many farmers are taking the precaution to resow their land. In some markets however the rise in the value of wheat is attributable to incidental circumstances occurring from the weather, as at *Bordeaux* and neighbouring markets, where the *Garonne* having flooded its banks, had committed considerable devastation, and in several places the whole winter crops are reported to have been destroyed, especially in Lower *Medoc*. At *Bordeaux*, wheat had realised 42s. per qr. From *Dunkirk* it is stated that in the neighbouring districts of France and Belgium, serious loss has been sustained by the growers of rapeseed, and that in instances the plant is totally destroyed: and that the flax has suffered also; prices, in consequence, have considerably advanced.

At *St. Petersburg*, linseed remained steady in price but little doing; *Morschansky* qualities were noted at 33s. 4d. on delivery in July and August. At *Liebau* a good many purchasers of grain, chiefly rye, had been effected for Swedish account, and the article noted at 19s. 8d.; linseed was improving in

value, and held at 33s.; the quality of the new crop proving satisfactory.

From Königsberg are confirmed our previous statements of the failure of the crops and consequent falling off in the receipts from the farmers, who, instead of coming to the City, as usual at this season with grain, are obliged to come to purchase the article, so great is the dearth of Rye and summer Corn in the interior. Rye was noted at 23s. and the stocks in spring not likely to exceed 15,000 qrs. Wheat, 170,000 qrs. Barley, 10,000 qrs. Oats, 50,000 qrs. and Linseed 19,000 qrs. which latter article was quoted at 31s. to 34s. At Danzig, the thaw continued, and from the swollen state of the Vistula great apprehensions were entertained of flooding and injury from the ice on the breaking up of the frost. Wheat was improving in value, and high-mixed qualities not fine had obtained 31s. 6d. 3,000 barrels more Flour had been contracted for at 19s.; the weather, however, was unfavourable for Mr. Witt's milling operations. At Stettin, wheat had rather advanced, red Uckermarks being noted at 30s. and Silesian and Pomeranian 28s. 6d. to 29s. Rye in request, at 22s. to 22s. 6d. In Mecklenburg the quotations are advancing, and Wheat must be noted 2s. to 2s. 6d. per qr. higher. The best parcels obtained readily 28s. to 28s. 6d. but holders were demanding, as the inquiry increased, 29s. to 29s. 6d. At Kiel, Lubeck, and Neustadt, Wheats were being purchased, for British and French account at 27s. 6d. to 28s. The almost unprecedented consumption of fodder, owing to the protracted winter, and increased number of sheep and cattle, was enhancing the value of all feeding grain, and made oil cakes extremely scarce. Buck wheat was in request for Holland.

The unfavourable accounts continuing in Holstein and Schleswick, as well as the Danish Isles, of the state of the cole-plants added to the reported injury sustained in parts of France, Belgium, and Holland, had further advanced the value of rapeseed, and 23l. 10s. per last was the current rate. At Copenhagen, flour in active demand, at 20s. per barrel, for English and British Colonial account.

By advices received from Stockholm, the accounts are truly distressing of the state of privation to which the peasantry of Sweden are reduced from the scarcity of provisions. The crops have proved generally deficient, and for the three previous seasons partial failures have been experienced, which in a country imperfectly cultivated, with a limited breadth of land dedicated to agriculture, has, it may be readily imagined, created considerable destitution, and which during the lengthened and severe winter, and impracticability of communication with inland districts, has been in some localities of a most distressing character; as is instanced in Smaland, from whence it is stated that rye had already cost 20 dollars per tonne; potatoes 8 dollars, oats, 12 dollars, and barley 15 dollars. At the mills, bones and straw were being ground for bread, and "the poor thankful

they could obtain this coarse food." Without charitable supplies of grain when the spring arrives, the smaller farmers will be unable to sow their land. The government, however, will no doubt prevent so dreadful an alternative, but in order to provide relief, extensive supplies will be required of rye as well as barley, both for seed, food, and distillation; the potatoes having been also much injured by the frost will cause an additional demand for grain from the distilleries. Rye, which is the staple commodity of the kingdom, has advanced in a few instances to the exorbitant rates of 40s. to 42s. per qr., and averages throughout the country fully 28s. and which is likely to be enhanced even to 30s.

The navigation of the Elbe is again open, and at Hamburg rather an animated demand had been experienced for wheat and flour, on British and French account. Prices of Wheat had advanced, and fine Marks and Magdeburg qualities deliverable at Hamburg, not to be obtained under 32s. A few arrivals had already been received from the Upland, and large supplies are to be anticipated, with which the demand will be required to keep pace, to prevent in all probability a decline in the present advanced currencies. The young wheats as well as barley are stated to have suffered from the intensity of the frost. Large shipments making of flour to England and our colonial possessions. Higher prices being noted in Holland for rapeseed, added to the unfavourable statements before alluded to, had caused holders to ask more money, and sales had been made on Brabant account from the Elbe and Weser, at 24l. per last.

In Holland a speculative inquiry existed for wheat, owing to the young plant in Zealand being stated to have received injury from the weather. Previous prices have been fully supported, notwithstanding the supplies were good. New Rhenish had obtained 34s., old, 35s. 3d. to 36s. 3d., exclusive of the duty; Zealand, white, 43s. Rapeseed advancing, and noted at 30l. to 32l. per last. Good Poland oats, of 40 and 41lbs., sold at 14s. 6d. to 15s. 6d., freights being very low, say 1s. 3d. per qr. to our coast.

The latest advices from the United States intimate a firmness in the wheat trade; and at New York and Baltimore the foreign supplies on arrival mostly find purchasers; at the former city best red German wheat was taken at 1 dol. 40 to 50 cents, and at the latter, red German Wheat had realized 1 dol. 65 cents and white the same rates, the American millers seeming to prefer selected red wheats, as being more productive of flour. Western Canal flour, however, only moved off in small parcels at 8 dols. to 8 dols. 25 cents, and Howard-street qualities at 8 dols. per brl.

From the detailed report of the stocks of flour at page 299, throughout the Union, it would appear that higher prices are to be anticipated. Great care and exertion seem to have been exerted in collecting the report, but the deductions are to be received with extreme caution, having had the experience of biased details during the two previous seasons. It must, however, be acknowledged that from the elaborate nature of the estimates which we have been obliged to abridge, reserving only the numerical products, that they are deserving of consideration and further investigation with the view of corroborating or controverting the results.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		MARCH 1.		APRIL 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	50	to	60	52	to	62
White.....	52	65	52	68		
Norfolk, Lincolnshire and Yorkshire....	48	60	48	62		
White, do. do.....	50	62	50	64		
Irish Red.....	44	48	44	52		
Ditto White.....	50	54	50	56		
Barley, Malting, new.....	30	31	30	31		
Chevalier, new.....	30	35	35	35		
Distilling.....	27	30	27	30		
Grinding.....	23	26	23	26		
Irish.....	22	25	22	25		
Malt, Brown.....	38	44	38	44		
Ditto, Chevalier, new and old.....	57	62	58	62		
Ditto, Norfolk and Suffolk Pale, do.....	54	57	54	57		
Ditto Ware.....	54	58	55	58		
Peas, Hog and Grey.....	29	31	29	31		
Maple.....	30	32	30	33		
White Boilers.....	34	38	34	38		
Beans, small.....	35	38	36	40		
Harrow.....	33	36	34	39		
Ticks.....	32	35	32	36		
Mazagan.....	34	36	34	37		
Oats, English feed.....	21	23	21	23		
Short small.....	22	26	22	23		
Poland.....	23	27	23	27		
Scotch, Common.....	20	23	20	23		
Berwick, &c.....	22	25	22	25		
Potatoes, &c.....	24	28	24	28		
Irish, Feed.....	19	21	19	21		
Ditto Potatoes.....	21	24	21	24		
Ditto Black.....	19	21	19	21		

PRICES OF FLOUR,

Per Sack of 280 lbs.	MARCH 1.		APRIL 1.	
	s.	s.	s.	s.
Town-made.....	49	to	52	52 to 55
Norfolk, Suffolk, Kent, and Essex....	42	44	45	46
Sussex and Hampshire.....	40	42	42	45
Superfine.....	44	—	44	—
Lincolnshire, Yorkshire, and Stockton.	39	41	41	43
Northumberland, Berwick, and Scotch.	39	49	41	44
Irish.....	43	—	46	—
Extra.....	43	—	46	—

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Week ending						
9th Feb.	55 4	28 10	20 0	27 7	32 11	32 7
16th ..	55 3	28 9	20 0	29 6	32 7	32 9
23d ..	55 2	28 8	20 0	27 6	32 0	32 10
2nd March	55 3	28 8	20 1	30 3	32 10	33 0
9th ..	55 4	28 6	20 0	29 3	32 5	33 4
16th ..	56 8	28 10	20 8	31 6	32 9	33 0
Aggregate Average of the six weeks which regulates the duty.....	55 5	28 9	20 6	29 3	32 7	32 11
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	31 8	19 10	16 9	25 9	21 3	21 3
No. on grain from British possessions out of Europe.....	5 0	2 6	2 6	3 0	3 0	3 0
Foreign Flour, 17s. 3d. per 196lbs. British Possessions, do. 3s. per 196lbs.						

COMPARATIVE PRICES OF GRAIN.

WEEKLY AVERAGES by the Imp. Quarter, from the Gazette, of Friday last, March 23, 1838.		AVERAGES from the corresponding Gazette, in the last year, Friday March 24, 1837.	
s. d.		s. d.	
WHEAT.....	56 3	WHEAT.....	56 8
BARLEY.....	28 10	BARLEY.....	31 6
OATS.....	20 8	OATS.....	22 8
RYE.....	31 6	RYE.....	36 7
BEANS.....	32 9	BEANS.....	36 10
PEAS.....	33 0	PEAS.....	35 8

STOCK OF GRAIN, FLOUR AND CLOVER-SEED IN BONDED WAREHOUSES IN LONDON ON THE 5TH MARCH.

Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.	Flour.
qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	cwts.
257,303	9,788	66,058	437	1,451	2,736	30,781

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th March, 1838; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption.	Quantity Exported.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	...	225 3	6930 3
Ditto Foreign.....	984 7	533 5	550870 6
Barley.....	...	...	35711 3
Oats.....	...	18 0	245033 4
Rye.....	...	...	9597 6
Beans.....	...	...	5299 0
Peas.....	107 5	47 3	20934 5
Indian Corn.....	470 2	1 1	2902 1
Flour from British Possessions.....	...	2651 3 24	16825 0 14
Ditto Foreign.....	13029 3 23	4 3 8	130774 2 2

PRICE OF SEEDS.

MARCH 26.

The arrivals from abroad of Cloverseed having continued limited, and much less having arrived from Hamburg by the last steam-boat than expected, with a fair consumptive demand this morning, holders succeeded in obtaining fully 2s. per cwt. more money for all the better descriptions of red, the stocks of which are new drawing within a narrow compass. The foreign imports since this day se'night comprise 129 bales from Rotterdam, 90 bags from Antwerp, 218 bales from Harlingen, 60 bags from Havre, 19 casks and 72 bags from Hamburg; and 27 casks and 30 bags from Hull; the quantity which has paid duty being 3,307. White seed was unaltered in value, as well as Trefoil. Linseed steady, but not much doing. Rapeseed is inquired after in small parcels for seed, and 31l. to 32l. demanded; but buyers generally did not seem inclined to give more than 30l. In Coriander no alteration. Caraway firm. Canary rules dull at former prices. Tares rather more saleable at 5s., and extra 5s. 3d. per bushel.

Clover, English red.....	60	white	50	87 per cwt.
superfine, 90	98			
Dutch.....	—			—
German.....	—			—
French.....	60	75 super..	80	86
American.....	—			—
Trefoil.....	—		12	19
Rapeseed, English.....	£30	£32 foreign	£24	£28 per last
Linseed, English Sowing.....	—	—	44	48 per qr.
Baltic.....	—	crushing	36	42
Mediter. & Odessa.....	—	—	40	44
Hempseed, small.....	32	34 large	38	40
Canary, new.....	36	38 old	40	42
Caraway.....	—	—	40	44
Coriander.....	—	—	11	14 per cwt.
Mustard, brown.....	12	16 white	7s	8s 6d per bush.
Turnip Seed, new Swedes	20	21 other sts.	28	36

PRICES OF HOPS.

MARCH 26.

The demand for Hops is rather more extensive, and prices very firm; some considerable purchases of yearlings have lately been made on speculation.

	£ s.	£ s.	£ s.
East Kent Pockets, from.....	4 4	to 4 15	superfine.. 5 12
Bags.....	—	—	—
Mid Kent Pockets.....	3 15	4 10	5 5
Bags.....	—	—	—
Weald of Kent Pockets.....	3 10	4 2	5 0
Sussex do.....	3 3	3 15	4 10
Yearlings.....	2 2	3 3	4 4
Old.....	1 10	1 15	2 10
Old olds.....	0 18	1 5	1 10

WOOL MARKETS.

BRITISH.

MARCH 26.

No sales of consequence have been made since the frost, which is not at all to be wondered at, when it is known that even wool bought in December, is not yet received by the North Country dealers, on account of the large quantities at the wharf warehouses at both ends, and of the scarcity of shipping in comparison of what has been wanted.

It was expected that the Foreign Wool sales which are now taking place would go off at considerably less than the last sales, but that expectation is being disappointed by prices as high as the last sales being given for New South Wales wool from 1s. 4d. to 2s., which qualities mostly interfere with English wool. But the qualities from 2s., and upwards did not, it is generally thought, sell so high by perhaps a penny or three-half-pence, although some think that the decrease in price was owing to their not being so suitable for combing purposes.

Manufacturing is going on in the manufacturing districts, and when the wool which has been bought during the last three months has got down, and has been consumed, there is no doubt of wool maintaining about late prices. At any rate wool is not at such a fearful price as to cause any serious apprehension in the minds of either farmer or dealer.

P. S.—Prices of English wool cannot be quoted differently until sales are made in some quantity, and prices are fixed with some certainty.

	Per lb.	MARCH 1.		APRIL 1.	
		s. d.	s. d.	s. d.	s. d.
Down Tegs.....		1 6	1 7	1 6	1 7
Half-bred do.....		1 6½	1 7½	1 6½	1 7½
Ewes and Wethers.....		1 3½	1 4½	1 3½	1 4½
Leicester Hogs.....		1 4	1 5	1 4	1 5
Do. Wethers.....		1 2	1 3	1 2	1 3
Blanket Wool.....		0 10	1 1	0 10	1 1
Flannel.....		1 0	1 4	1 0	1 4
Skin Combing.....		1 0½	1 2	1 0½	1 2

WAKEFIELD, Friday 23.—We have to report another week of inactivity in the trade, and what few sales have been made are at a farther small reduction in price; this is more particularly the case in low heavy combing sorts.

LIVERPOOL, SATURDAY, MARCH 24.

There was a public auction of 800 bales (300 of which were damaged), East India Wool held here on the 21st instant, at which there was a fair attendance, and though we cannot report brisk bidding there was nothing left unsold; 200 were taken on French account. The prices realised were a trifle lower than those of the preceding week; a fair amount of business has been effected in Peruvian and Mogadore by private contract. Import this week, 295; previously this year, 8,078; total, 8,373 bales.

SCOTCH.—There has been less inquiry for laid Highland wool this week, but the business done has been at our quotations. In White Highland the stock is light, and not very good, or it would readily command our highest quotations. In cross chevriots there has been a fair business at our quotations.

SCOTCH.

Per Stone of 24 lbs.	MARCH 1.		APRIL 1.	
	s. d.	s. d.	s. d.	s. d.
Laid Highland Wool, from. 10	6	11 0	10	6 to 11 0
White Do. Do.....	13	0 13 6	13	0 13 6
Laid Crossed Do.....	14	0 15 0	14	0 15 0
Washed Do. Do.....	16	0 16 6	16	0 16 6
Laid Chevriots.....	16	0 17 0	16	0 17 0
Washed Do.....	23	0 25 0	23	0 25 0
White Do.....	28	0 32 0	28	0 32 0

FOREIGN.

MARCH 26.

The sales of foreign wool which took place last week, were well attended by buyers, who purchased nearly the whole of the wool offered, at about the prices obtained at the sales which immediately preceded them. Australian wools realizing from 10d. to 2s. 7½d.; Van Diemen's Land do., 9½d. to 2s. 2d. per lb. Since our

last the imports have been composed of about 300 bales of German; 200 do. of Spanish; and 70 do. of Cape of Good Hope wools.

Electoral Saxony wool, from 4s. 0d. to 5s. 2d.; first Austrian, Bohemian, and other German wools, 3s. 2d. to 4s. 0d.; second do., 2s. 0d. to 3s.; inferior do. in locks and pieces, 1s. 6d. to 2s.; German lamb's do., 2s. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonessa sheep's do., 2s. to 3s. 2d.; Segovia do., 1s. 8d. to 3s.; Soria do., 2s. to 3s. 0d.; Caceres do., 2s. to 3s. 2d.; Spanish lamb's do., 1s. 6d. to 2s. 6d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal sheep's do., 2s. to 3s.; ditto lamb's ditto, 1s. 6d. to 2s. 6d.; Australian, fine cross do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Diemen's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 4d. to 2s. 10d. per lb.

THE WOOL TRADE, LONDON, THURSDAY EVENING.—The series of sales of Colonial Wool commenced this afternoon at Garraway's Coffee House, consisting of 1,024 bales. The sale of to-day was conducted by Messrs. J. T. Simes and Co. and was exceedingly well attended. This day's sale comprised about 411 bales of Australian, more than one-half of which were from the choice flocks marked J. Mc'A. The biddings up to the hour our reporter left the room were brisk. Australian first quality has realised 2s. 2d. to 2s. 7½d. per lb.; second do. 1s. 6d. to 2s. per lb. Clothing qualities 1s. 4d. to 2s. 3d.; second do. 1s. 6d. to 2s. per lb. Wools in the grease from 10d. to 1s. 1d. per lb. These were marked J. Mc'A. The other wools sold at 1s. 6d. to 2s. 6d. per lb., and 117 bales of Van Diemen's Land at from 1s. 9½d. to 2s. 2d. per lb. It is yet too early to form an estimate as to the result of the sales. To-morrow 500 bales are to be offered, and on Saturday about 400 more. The market is not quite so high as at the last sales. The imports in this week have been very trifling, and attention is entirely directed to he sales which are in progress. The imports in the present week have been under 400 bales.

At ANTWERP in the week ending on the 19th inst., the transactions in wool had been unimportant. The only sale effected was of 30 bales of Russian of various qualities. The article remained in a good position. The ship *Courier* from Havre had arrived at Antwerp with 243 bales of Spanish wools.

Wool on which the Home Consumption Duties have been paid at London, Bristol, and Hull, during the last week:—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Spanish, London..... lb.	557394	495885
Australian, London..... lb.	249678	23961
German and other Sorts, do. lb.	2145340	3260350
Liverpool..... lb.	2025126	—
Do., Hull..... lb.	1023289	1209656

POTATO MARKET.

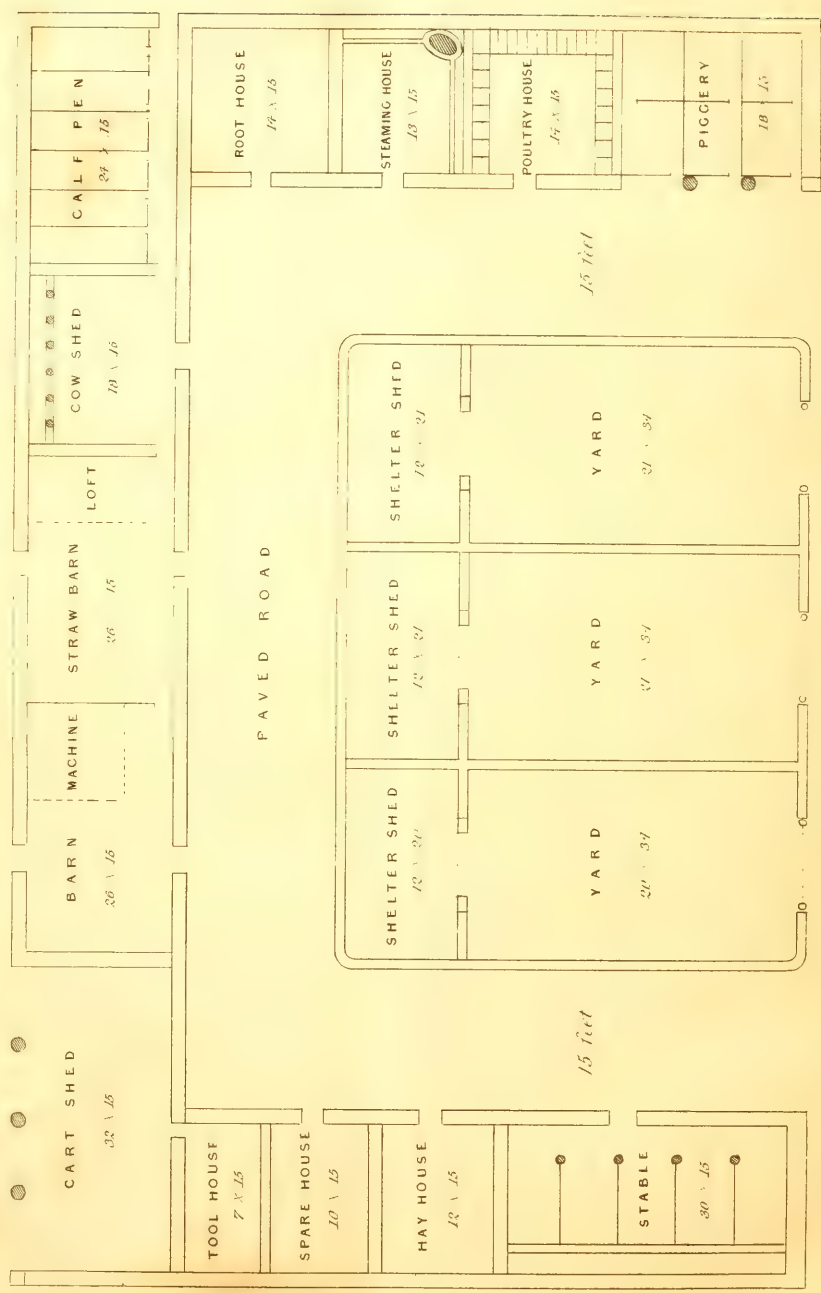
SOUTHWARK, WATERSIDE, March 26.—The supply of Potatoes to the Waterside during the past week has been the largest that has yet been reported subsequent to the breaking up of the late severe frost, and the wind being northerly of late has tended much to favour our supplies, they are as follows;—from Scotland, 2495 tons; Yorkshire, 1027; Devonshire, 617. Jersey and Guernsey, 201. Kent, Essex, and Suffolk, 157; making a total of 4497 tons, in consequence of the above extensive arrivals, prices has become lower in proportion, but the weather being cold greatly assists the consumption.

Annexed is the Current prices Per ton.

York Reds..... 00s	80s	Jersey and Guernsey
Kids..... 70s	80s	Blues..... 60s 65s
American Natives..... —s	60s	Kent, Essex, and
Scotch Reds..... 50s	60s	Suffolk Whites... 50s 70s
Devons.... 55s	70s	

Printed by Joseph Rogerson, 24, Norfolk-street, Strand, London.

Employing two ploughs partly or wholly turnip land producing green crops and employed partly in breeding and partly in feeding stock. Estimate from £2475 to £3000.



Scale 3/4 inch to an inch.

Scale 1/4 inch to an inch.

THE FARMER'S MAGAZINE.

MAY, 1838.

No. 5.]

[VOL. VIII.

THE PLATE.—FARM-BUILDINGS.

The only difference between this plan of farm-buildings and that given in our last number consisting in the size of the farm, which varies only from 60 to 100 acres, an additional description is unnecessary.

ON MAKING HAY.

Subjoined will be found a letter from a correspondent in Ireland in which he complains of the bad method of making hay, followed in that country. It does not appear that his remarks are confined to any peculiar part, but seem as if applied to the whole country. If this indeed be so, it furnishes another remarkable instance of the apathy of landlords in promoting practical improvements in husbandry. The affability of the landlord who meets his tenantry and neighbouring farmers at the market dinners, may be pleasing to them, and the respect and homage paid by them, may be gratifying to him; the cheers which from time to time follow the delivery of a set of fine strung sentences, about "devotion to the cause of the farmers," "a determination to sink or swim with them," a solemn declaration "to resist to the knife, the attempts of the free-traders and moneymongers," often repeated upon like occasions, may be very flattering to him, and tend to promote *other* objects which he may have in view; but if this same landlord study not the comforts and conveniences of his own tenants, as regards their homesteads, and their farms; if he merely talks about the improvements of the day without taking one single step to introduce them, to show them to his tenants, so that they may embrace the advantages which would accrue from their adoption, he is not a good landlord, he is no "friend to the farmer," and merits not the applause which he meets. We wish it to be clearly understood that these remarks are not directed at any particular individual, they are induced by the statements of our Dublin correspondent, that the method of making hay *generally* in Ireland is such as he de-

scribes. Can it be possible that so many noble lords and gentlemen who possess property in Ireland, some of them, also, having large estates in England, spending a portion of their time every year in both countries, should witness constantly on not only their own estates in England, but all around, an excellent method of storing away the hay crop, and should take no pains to instruct their Irish tenantry! This negligence is not less prejudicial to their own interests, than to those of the tenantry. If ten landlords in each county in Ireland were to introduce the English method of making hay, upon his own demesne land, or influence some one of his tenants to adopt it upon his farm, the practice would soon spread over the whole of Ireland. Irish men and women of the labouring class assist in making hay in England; nearly all the hay-making in the county of Middlesex, where the best method prevails, is performed by Irishmen. They could do the same in their own country, had they a presiding head capable of directing the operation. There is scarcely an English coachman or groom who goes over with a family to Ireland, who would not be competent to manage the making of a field of hay on the English method. The superiority of nutriment found to exist in hay cut just when the flower has arrived at its full perfection, dried as expeditiously as possible, and made into a solid stack whilst it possesses a sufficient portion of the natural juices to induce the necessary degree of heating or fermentation, is so well known in this country, that we cannot but express our surprise that, if not upon the score of profit, no small matter in this case, at least for the sake of their hunters and carriage-horses, country gentlemen in Ireland have not universally introduced the English method.

As the season is approaching when this operation will commence, we will give a brief outline of the English method of making hay, and if we should be the cause of drawing attention to the subject, and of inducing its more general adoption in Ireland, we shall experience much satisfaction.

"FIRST DAY.—All the grass mown *before* nine o'clock in the morning is tedded, in which great care is taken, thoroughly to loosen every lump, and to strew it evenly over all the ground*. Soon afterwards it is turned, with the same degree of care and attention; and if, from the number of hands, they are able to turn the whole again, they do so, or at least as much of it as they can, till twelve or one o'clock, at which time they dine. The first thing to be done after dinner, is to rake the grass into what are called *single* windrows†; and the last operation of this day is to put it into grass cocks.

"SECOND DAY.—The business of this day commences with tedding all the grass that was mown the first day *after* nine o'clock, and all that was mown this day *before* nine o'clock. Next, the grass cocks are to be well shaken out into saddles (or separate plats) of five or six yards diameter. If the crop should be so thin and light as to leave the space between these saddles rather large, such spaces must be immediately raked clean, and the rakings mixed with the other hay, in order to its all drying of a uniform colour. The next business is to turn the saddles, and after that, to turn the grass that was tedded in the first part of the morning, once or twice, in the manner described for the first day. This should all be done before twelve or one o'clock, so that the whole may lie to dry while the work-people are at dinner. After dinner the first thing to be done, is to rake the saddles into *double* windrows‡; next, to rake the grass into *single* windrows; then the double windrows are put into *bastard*-cocks; and lastly, the single windrows are put into *grass*-cocks. This completes the work of the second day.

"THIRD DAY.—The grass mown and not spread on the second day, and also that mown in the early part of this day, is first to be tedded in the morning; and then the grass cocks are to be spread into saddles, as before, and the *bastard* cocks into saddles of less extent. These lesser saddles, though last spread, are first turned, then those which were in grass cock; and next, the grass is turned once or twice before twelve or one o'clock, when the people go to dinner as usual. If the weather has proved sunny and fine, the hay which was last night in *bastard* cocks, will this afternoon be in a proper state to be carried; but if the weather should, on the contrary, have been cool and cloudy, no part of it probably will be fit to carry. In that case the first thing set about after dinner, is to rake that which was in grass cocks last night into double windrows; then the grass which was this morning spread from the swaths into single windrows. After this, the hay which was

last night in *bastard* cocks, is made up into full-sized cocks, and care taken to rake the hay up clean, and also to put the rakings upon the top of each cock. Next, the double windrows are put into *bastard* cocks, and the single windrows into grass cocks, as on the preceding days.

"FOURTH DAY.—On this day the great cocks, just mentioned, are usually carried before dinner. The other operations of the day are such, and in the same order, as before described, and are continued daily, until the hay harvest is complete.

"In the course of hay-making, the grass should, as much as possible, be protected both day and night, against rain and dew, by cocking. Care should also be taken to proportion the number of hay-makers to that of the mowers, so that there may not be more grass in hand at any one time, than can be managed according to the foregoing process. This proportion is about twenty hay-makers, (of which number twelve may be women,) to four mowers; the latter are sometimes taken half a day to assist the former. But in hot, windy, or very drying weather, a greater proportion of hay-makers will be required, than when the weather is cloudy and cool."

It will be seen that four days suffice to get the hay into condition for the stack, but this calculation is made upon the supposition that the weather be perfectly fine. No rule can be laid down as to time, except in the one case where the weather is uninterruptedly fine, and even then the operation will be more or less governed by collateral circumstances. A light crop which will of course spread thin upon the ground, will dry quicker than a heavy swarth which will lie thicker. Grass on an upland meadow open to sun and wind will necessarily make faster than a crop of the same weight in a lowland meadow, surrounded by woods, &c., and, consequently less liable to the effect of the wind. Thin spiry grass, such as rye-grass, will require less drying, and should be stacked with more sap in it, than a rich full-bottomed crop of meadow grass.

These general directions will be found useful, as giving the several steps; but the most important point depends upon the judgment of the superintendant head, in determining at what moment, be the weather what it may, the grass has attained that stage which, whilst it possess sufficient sap to cause fermentation, has it not to such an extent as to overheat and injure the hay, which often occurs without the stack igniting. The requisite degree of skill upon this point, like much other important information upon agricultural matters, can only be acquired by experience.

ON MAKING HAY.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—I have been making some efforts to effect a change for the better in the treatment of hay in Ireland, both with reference to making it, as well as the bringing it to market, all of which is in the most detestable system. You are not, perhaps, aware that, with some very few exceptions, the management of the hay crop in this country is perhaps the worst that it is possible to conceive. The grass, in the first instance, is allowed to stand too long before being cut; after being cut, is exposed to sun and often to rain till it is fairly bleached, then put into what is called field cocks, and there allowed to remain frequently till September and October. The

* The following observations on the Middlesex method of hay-making, were obligingly communicated by the late Thomas Skip Dyot Bucknall, Esq., M.P.

By a regular method of tedding grass for hay, the hay will be of a more valuable quality, heats more equally in the stack, consequently is not so liable to damage, or fire; will be of greater quantity, when cut into trusses, and will sell at a better price; for when the grass is suffered to lay a day or two before it is tedded out of the swath, the upper surface is dried by the sun and winds, and the interior part is not dried, but withered, so that the herbs lose much both as to quality and quantity, which are very material circumstances, at the price hay now fetches at market. An instance in point: the physic gardeners who attend to their business, are very careful in the proper and equally drying their herbs, and they find their account in it.

† That is, they all rake in such a manner as that each person makes a row, the rows being three or four feet apart.

—J. M.

‡ In doing which, every two persons rake the hay in opposite directions, or towards each other, and by that means form a row between them of double the size of a single windrow. These double windrows are about six or eight feet distant from each other.—J. M.

§ It seldom happens in dry weather, but that it may be carried on the third day.—J. M.

injury to the hay, the waste of bottoms, scalding, and trampling the after-grass, altogether makes a loss, I would say, in quality and quantity, and in other respects, to fully one-fourth of what ought to be. But this is not all—late in the season it is drawn home into the rick; when sent to market it is again tossed out loose, and loaded so, instead of the tight, safe, and better mode of bringing it cut in trusses, as is the case with you. Now the information that I want is, do you know of any society, or plan of mutual insurance, whereby, if a rick of hay is burned from being injudiciously put up, and taking fire of itself, that the owner is safe from loss. I find in the conditions of some of the English insurance companies, that they do not take the risk of hay ricks in this way. If any plan of this kind can be had, it would go a great way in inducing our farmers to act on the improved English plan, and this would be a great object, as hay is rapidly becoming an important object of export from Ireland.

Can you give me the address of two or three respectable persons in the bone trade in the North of England. I am interested for a friend in that line here, who wishes to form a respectable connection in the line. What is the general price of good bones now? I am, Sir, your very obedient servant,

A CONSTANT READER.

Dublin, April 14, 1838.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—In an article you did me the honour of inserting in the February No. of your Magazine, I made some remarks on different subjects connected with agriculture, and in consequence of observations from Mr. Gayford, W. J., and a Surrey Farmer, I am induced to send a few sentences in explanation. Mr. Gayford and W. J. think I have misunderstood Mr. G.'s speech: but on looking again at the passage (*Farmer's Magazine*, January 1838, page 41) I confess I cannot understand it otherwise. I cannot see figurative language in a plain statement of facts: the words are express, and evidently imply that a benefit was derived from analysis; "for if our land-owners," says he, "would get our soils analyzed, we would be able to pay them better rents." That the convertible farmer never derived any advantage from analysis, experience enables me most fully to assert. W. J. ascribes agricultural distress to the ignorance of the farmers. I mentioned their apathy and prejudice, and I always lay the principal burden on the land-owners themselves, as they have both the means and the power. On one point only we seem to differ, and even on that point the difference will be small when a little explanation is made. Cool and dispassionate reasoning always answers the purpose best; the "*suaviter in modo*" is ever consistent with the "*fortiter in re*," and knowledge and mutual information is best imparted and received from justness of argument, and an accurate knowledge of facts. My observation was, that chemistry has not yet rendered such essential service to agriculture as to other arts, and probably never would, and in this opinion I am supported by several of the leading agriculturists of the day—men who can combine theory and practice, and who can think in the closet and practise in the field. But no person is fonder of science than myself—of science based on reason, and which can be supported by sound practical judgment. With the grasses I have been long and ex-

tensively concerned, and an experience of many years enables me to assert the great advantage to be derived from the use of perennials under an alternate rotation. The agricultural language of chemists is yet confined to, "if, and may be, should be and can be." If these potential terms were reduced to practice—if chemists would show the possibility of their theories, and advance no hypothesis that will not stand the test of sound practical judgment, much of the contempt and prejudice that is almost universally directed against book-farming might have been avoided. The great object to be attained in agriculture is, to combine theory and practice—to have as much practical judgment as will enable us to judge if the theory be practicable under existing circumstances. From want of the exercise of this practical judgment, much harm, in my opinion, has accrued to the advancement of agriculture. Farmers almost universally believe, that any person who presumes to have an original idea, is a mere theorist, and never can do any thing in practice—a most absurd and fallacious idea—and theorists are certainly too apt to neglect practice. But we cannot dive into futurity, or know what another generation may do; and when we see hills tunnelled through, and roads making below the beds of rivers, we must stop short in prescribing limits to the unceasing efforts of genius, and consider nothing impossible to be achieved that is not palpably beyond the power of man. The discoveries in agricultural practice have been derived from what Mr. Handley very happily calls "fortuitous results;" and the chemist is now employed in finding the fertilizing principle. If he had detected the use of bones as a manure, and recommended them to the farmer—if he had introduced the rotation of crops, founded on the excretory system of Decandolle, by which it is found that plants of a different order succeed better in succession than those of the same genus, though of a different species, then the merit and value of the discovery would be justly due. But reasoning "*a posteriori*," proving the law from the fact, at once shows the discovery has not proceeded from the regular chain of reasoning. The processes in the laboratory seem too delicate and refined to stand the tear and wear of field operations—many uncontrollable causes interfere. But for my own part, I would have every suggestion that science can offer, in order to increase produce and lessen the cost, at once brought to the test, though I am well aware they do much harm with weak and prejudiced minds—with persons who cannot or will not see that one lucky hit or fortunate idea may confer a great and lasting benefit on mankind, and amply compensate for hundreds of previous miscarriages. I know very well there are manures of various kinds and qualities to be got in London, and all large towns, and I have used several with success. But the seller never showed any analysis or recommendation of a chemist—he had it collected by his own industry, and got some farmer to try it. Many thousands of tons are lying in London, just now in want of purchasers. The Surrey farmer has not given us the analysis and constituent parts of the manure he uses—the recommendation of the chemist, and his name. The manures to be got near towns constitute the well known advantages enjoyed by farmers in the vicinity. I doubted the quantity of manure to be got by the Thames Drainage Company, but highly approved of the attempt to add to our manures, if got in the quantity anticipated. I know not where purchasers would be found—the cost of production and carriage remain to be known. I also doubted if Mr. Kimberley's plan would procure manure in quantity on any farm to

confer a general benefit; being of opinion that bulk is absolutely necessary to support fertility, and that it is in this respect that farm-yard manure beats every other yet brought into competition with it. The effect of many manures is quick and evanescent—bones themselves requiring the aid of the dressing left by sheep to support fertility. The Surrey Farmer does not say if he or his friend have adopted any part of their practice from the writings of Sir H. Davy—if they use dry straw or unfermented manure for turnips, and with what success. The Earl of Leicester tried the latter, and soon relinquished it. But I do not go the whole length of the opposite party in having a cold, rotten mass, or a compressed pit, for I have always found the application most effectual during the single fermentation just before sowing. Davy recommended the abolition of summer fallowing, but showed no means of effecting it—till draining now bids fair to accomplish this object in time, and most certainly no chemist introduced it. I remember when Davy's lecture on manures was first published, Sir J. Sinclair sent a copy to a friend in Tweedside, whose annual quantity of turnips averaged from 500 to 600 acres. He received it just in the middle of the turnip season, and he immediately ordered his bailiff to make three experiments of three drills each in different parts of a 15 acre field, with fresh dung from the fold-yard, and to use the most decomposed he could find. Next year he repeated the experiment, and the turnips were reckoned 40 per cent. inferior to fermented manure. He then wrote Sir John that he liked the lecture very much, but that it had not been able to lecture him out of 35 years' practice. And experience fully confirms the fact, that fermentation in all manures is necessary for immediate effect. It has been well known many years ago that wheat, beet, and ruta бага, may be dibbled, and in moist seasons I have transplanted with much such success to fill up vacancies from failure of the seed. But, I understood Mr. Burge's system to be—to raise turnip plants on beds like cabbages, and to transplant them on the drills at regular distances, to save the expense of hoeing and thinning. This I reckon wholly impracticable—dry weather may continue, weeds will rise, and the season may be spent in dibbling. He has told us nothing new on this point; neither has he informed us if his friend dibbled beet and Swede plants, single and at regular distances, and if it saved hoeing. He says, chemistry will show us the different qualities of clays, and the propriety of laying lime and chalk on such lands, that the test of an acid will discover in what either soil may be deficient. It is a well-known fact, that chemistry can do this; but then he has not told us, if the farmers have acted on such analysis in determining the quantity of lime to be applied, or if he be regulated by it in the application of lime at all. During my practice in Surrey, I have seen lime applied to calcareous and weald clays, but never knew a farmer guided by analysis, but by some definite quantity established by the custom of his forefathers, and to which he would attach more faith than to a chemical analysis. When chemistry can point out the greatest or least possible quantity of lime that can be applied to any soil to produce profitable fertility,—it will confer a great boon to the farmer—at present no part of agricultural practice lies in more vague uncertainty.

It is matter of great regret that the Central Society, based as it was on a sandy foundation, should afford additional means of renewing the distrust generally entertained of such institutions, and of book-farming. They have held meetings and discussed

questions wholly irrelevant with the main object; spent some money and contracted debts and done nothing. On no point have they communicated one iota of knowledge—and it ever must appear to me a most incomprehensible anomaly for agriculturists to hold useless discussions, and at the same time neglect the means of improvement already known. The great obstacle is the expence or the want of outlay; how improvements can be made without outlay, it is certainly no easy matter to discern. The judicious application of that outlay rests with the persons who make it; for want of outlay, I know land in Surrey producing weeds, and the sound and fertile loams of Derby and Leicestershire producing natures' growth, with cheap lime at hand, and an abundant supply of manure from the villages in these densely populated counties. Nothing is wanting but outlay, but nothing will induce the cultivator to bestow more labour in order to produce heavier crops. That they may be raised with profit, no doubt can exist. But then there is expence, and the prejudices that everywhere start up are insurmountable, and render every attempt abortive. There is no doubt that science may assist agriculture in preparing manures by chymical processes; but then the almost insurmountable obstacle constantly meets us, whether it can be done with remuneration under the existing circumstances of our social system. In order to break down the barriers of prejudice, and to advance practical improvements by every means theoretical, chymical, or practical, in order to increase produce and diminish cost, we have now the prospect of having a society based on sound and judicious principles, and unattended with the foolish nostrums and illusions that have so long deceived the farmer, still the want of outlay seems to me an almost insurmountable barrier. J. D.

April, 24th, 1838.

ON COW GRASS, OR NATURAL SCOTCH CLOVER.
—With reference to Mr. Thallon's advertisement, he has sent us the following remarks:—The cow grass, or natural Scotch clover, is considered to be a native of our own country, and therefore well adapted to our soil and climate, also very profitable for farmers to sow along with a proportion of perennial rye grass, red and white clover seed, either for cutting in a green state, pasturing, or for a hay crop, and being a real perennial clover, it is particularly well suited for sowing for pasture, having been known to stick in the ground when every other thing, such as rib-grass, white and yellow clover, perennial rye-grass, &c., was thrown out of poor wet land. Besides fixing and spreading its roots, it also branches off into three and four stalks from each root, so that less than the half of the quantity of red clover usually sown with white (of the cow grass) is sufficient either for cutting or pasturing, which lessens the expense for seed per acre, although the cow grass seed is higher in price per pound weight than the finest red clover. He therefore strongly recommends it to his country friends as an excellent and profitable grass to sow, both for producing a heavy crop of hay of fine quality, and for pasturing afterwards, if sown with a proportion of white clover seed; and in order to convince his friends that it is also an *early* grass, he invites those who wish to see it growing to come and see it on his own farm, where although growing upon the worst of his infield land, it far surpasses his other fields sown down with the best red and white clover seed and perennial rye-grass, under more favourable circumstances as to the condition and quality of the land &c. He also begs to refer to the fields of Wm. Ingils, Esq. of Conland, by Leslie, and those of Mr. Orrock, Scotstarvit and Barbarafield, by Cupar, for the satisfaction of those who wish to see it growing.—*Fife Herald.*

SPADE HUSBANDRY AND COTTAGE GARDENS.

EXTRACTED FROM A PAPER READ BY DR. YELLOLY TO THE STATISTICAL SECTION OF THE BRITISH ASSOCIATION.

I noticed the appropriation of small portions of ground as gardens, to such of his labourers as Mr. Mitchell is able to accommodate with cottages. The practice is so salutary, and so intimately connected with the best interests of the agricultural population, that I hope to be excused in offering a few remarks upon it, as subsidiary to the principal design of my present paper, though it is a subject, which, from its extensive bearings and great practical importance, might justify a fuller consideration.

If it were stated, that by a very slight change in the employment of a small portion of the resources of the country, a very important and unequivocal benefit might at once be conferred on the whole mass of agricultural labourers contained in it, gentlemen would naturally enough look for the announcement of some visionary and Utopian project. But if to this were to be added, that the scheme involved neither public levy nor private contribution; that it would have a strong tendency to improve the morals, promote the industry, and elevate the character, of the cottager and his family, while, at the same time, without interfering with his usual occupations, or taking him to a new and distant place of abode, it would be the means of providing him with a cottage rent free, or furnishing him with the means of procuring one, there would be little difficulty in forming a conception of the mode in which a notification, apparently so wild and extravagant, would be received. And yet, what is the fact with regard to cottage gardens? A labourer pays the full rent, or even much more than the full rent, for a quarter of an acre of ground, which in this way produces a gain rather than a loss to the owner. He is afforded an agreeable and useful employment at leisure hours, or in uncertain weather, without any neglect of his ordinary business; while his example, and the pleasant and domestic nature of the occupation, produce a constant disposition in the family to lend him their assistance, and thus draw closer, and render more powerful, the influence of domestic ties. His garden acts to him as a saving bank for labour, by securing the immediate employment of small portions of time as a fund for further advantage, which would otherwise escape imperceptibly from the grasp; like the poor man's savings, when they are not placed, as soon as made, beyond the risk and temptation of being used needlessly and improvidently. In this way there is a sure pecuniary benefit, the amount of which, under good management, may be at least three pounds per annum; and I am much gratified in learning, by a letter with which I have been favoured by the Bishop of Bath and Wells on the subject, that he considers the value of the produce received by each occupant of a quarter of an acre of ground, to extend even to between four and five pounds; while the ground itself, by being continually enriched through the exuvæ of the family, and the manure afforded by a pig, "is not at all worn out, but bears every year, for the most part, the same, if not an increasing crop."*

Lord Braybrooke, in Essex, and Sir Edward Kerison, in Suffolk, have carried the system of garden appropriations into extensive operation, with every possible comfort and advantage to the cottager; and there are also numerous examples elsewhere. But it is to the Lord Bishop of Bath and Wells that the country is most deeply indebted for the commencement of this practice, thirty years since, for its extension over every part of his lordship's property, and for the complete demonstration which his experience has afforded, not only of the popular character of the practice among the poor, but of the facility and advantage with which it may be universally adopted. It would be highly worthy of the more influential of our nobility and gentry in every county, and I need hardly add, of the hierarchy and clergy, to take an active part in extending the distribution of cottage gardens, by which means it might be hoped that it would, in no long time, be felt to be discreditable for a village or farm to be without them.

The observations which I have now made solely apply to agricultural districts, and agricultural population; but I am happy in being informed that in a town near me, (Bungay, in Suffolk,) of near 4000 inhabitants, the system has, within the last two or three years, been carried into very satisfactory operation, to the extent of sixty-eight allotments, of a quarter of an acre each, which are occupied, with much pleasure and benefit, and with every feeling of obligation, by various mechanics, or working people of the place. This important example evinces that cottage appropriations need not be altogether confined to the agricultural labourer, but are capable of advantageous application to town populations of moderate extent.†

For example, (and the same reasoning will apply to other crops,) will evince the correctness of the statement; for in ploughed land, in common husbandry, half a sack per rod, of the value of three shillings per sack, containing ten pecks, is a common amount; but when the ground is dug, and receives the minute attention which its small quantity may ensure to it, the growth will generally be nearly double. In the power of bringing up two or three pigs every year, which the refuse of a garden so readily allows, there is a regular and important additional advantage conferred on the cottager.

† In a letter which I addressed to Lord John Russell last year, on the arrangements connected with the relief of the sick poor (2nd edition, p. 37), I touched upon the subject of cottage gardens, and submitted to his lordship how important it would be that the poor law commissioners should give their assistance in promoting such appropriations. "If the assistant-commissioners, under the auspices of the commissioners," I added, "would avail themselves of their visits to unions and parishes to impress on landholders and farmers how subservient distributions of small portions of land as gardens, at almost any rent which could be set upon them, would be to the comfort of the poor, and the favourable operation of the poor laws, the measure (which with its other recommendations, would be exceedingly popular among agricultural labourers,) would have the prospect of being soon very generally adopted." This is still my opinion; and though I am aware of the great extent, high importance, and unwieldy nature, of the duties which attach to every gentleman connected with the administration of the poor laws, and that such a sort of endeavour would be entirely extra-official, yet the mere approbation of the measure, and exercise of good will towards it, would be a powerful means of furtherance, through the influence which the assistant commissioners have over boards of guardians, and their communication with the higher orders of their respective districts. I would observe, too, that great exertion has been made by the poor law and assistant poor law commissioners, to promote the establishment

* I am happy in being confirmed in my opinion as to the amount of the pecuniary advantage derivable from a cottage garden, by the observations and experience of Lord Sandon, who so ably presided over the statistical section at Liverpool. A slight calculation of the usual product of such a portion of ground, in potatoes,

Some degree of prejudice exists against cottage gardens, from their being supposed to form a part of what has often been termed the *allotment system*,* which is viewed by many with disapprobation and distrust. Hence there has arisen a good deal of misconception: for an allotment of ground may be understood to imply such a portion as is sufficient to occupy a person's whole time in cultivating it, or what may be merely enough to fill up his leisure hours. In the former case, a man quits the position of a labourer; in the latter, the care of his garden does not interfere with his regular employment as a husbandman, and with his permanent and paramount duties as a servant. The minute division of agricultural occupations in Ireland bears no analogy to the system of cottage gardens so successfully adopted in this country. In Ireland, the labourer depends on his holdings for his principal maintenance; and these offer continual inducements to perpetuate, and to extend, the present system of general privation and insufficient support.

But in England, cottage gardens are mere accessories, and are only appropriated to cottages which are in ordinary occupation. The solid part of the work which they require demands but little of the time of the labourer, and cannot call him from his ordinary avocations; for the digging of forty rods of garden ground would not occupy more than a space of four or five days, which may be diffused over a considerable period of time, according to his convenience. His rank in life, therefore, and the nature of his obligations, are not at all changed by his having a large garden instead of a small one, or none; but he is placed in a situation in which his industry and thoughtfulness can give him the power of increasing materially the comforts of his family, without loss to any one; while, at the same time, those comforts are intimately connected with the exercise of the steady and industrious habits on which he must depend for the regular wages which are to form his chief support. Without, therefore, touching on the expediency or propriety of large allotments (which, when carefully and judiciously appropriated, may be occasionally attended with advantage), I have every conviction, that by means of those which are limited to a quarter of an acre, the labourer is enabled to have much accession of comfort, and to provide, more readily and more efficiently than by any other means, either in use or

of medical clubs among the poor, though not at all forming a necessary part of their duty; and that to these many objections have been made, both as respects the difficulty of raising even the small sum required by them, where earnings are small, and the insufficiency of the payment to the object required. Cottage gardens, however, would not only enable the labourer to pay fairly and independently for medical advice, but to join a well-regulated and efficient benefit society, by means of which he would be insured against the necessity of having recourse to parochial aid in any of those exigencies to which the poor man is particularly liable. I would add, too, that the thoughtfulness and regard for the interests of the poor, which an endeavour to promote their comfort and advantage, through the means of cottage appropriations, would obviously evince, could not fail to be taken kindly; and would be an agreeable, and perhaps it may be said, a politic, mode of offering a compensation for anything like harshness, which the exercise of official duties may occasionally render necessary.

* The "allotment system," as recommended by the Labourers' Friend Society, is but another term for what Dr. Yelloly calls cottage gardens.

prospect, the funds necessary for preventing him from having occasion for parish relief, except, perhaps, under some very grievous or long-continued visitation.

STEAM CARRIAGES AND RAILWAYS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

[We have subjoined the letter from the *Globe* in compliance with the request of our Correspondent.]

SIR,—I forward your paper weekly to a friend by his desire, and hence it is that I have an opportunity of perusing it which otherwise I should not. The interest you take in promoting the establishment of steam carriages upon common roads induces me to solicit the favour of your inserting the few observations I am about to make. I have always been favourable to railroads as effecting a vast improvement in our means of internal communication; but I have not been blind to one great evil which I always feared, and which already begins to show itself—that of the monopoly which they will in most instances enjoy.

I enclose a letter from the *Globe*, containing some very important facts, which you can use or not at your pleasure. The difference in charge for the same distance on the foreign and English railways is enormous. I have, for many years, been in the habit of receiving parcels containing law papers weekly, and occasionally several times in the week from Lancaster. The parcels are small, and commonly about the same size, say from 1lb. to 1½lb. The charge used to be 5s. 4d., but it has been lately altered from that amount to 6s. to 6s. 6d., and at length to 7s. A deed, weighing about 1½lbs., sent from Dublin to London a short time since, was charged 8s. 6d. Expedition may, in some instances, more than compensate for the increased charges by railway conveyance; but in ordinary cases the additional cost is a decided tax upon the public, which, so soon as the railways shall have the sole conveyance of goods and passengers will become a grinding monopoly. The only means of keeping them within bounds will be by opposing steam to steam.

You some time since stated that Sir James Anderson's steam-carriage would travel at the rate of 15 miles per hour, and carry passengers and goods at from a half to a third less cost than horse coaches. If this be so I presume small parcels can be carried at a proportionably less rate, and that instead of an addition of 25 per cent., we may hope for a reduction to that extent, thereby making a difference of 50 per cent. This, I can assure you, is no small matter in a large agency house.

The public must, in my opinion, derive much benefit from the establishment of steam carriages upon common roads, even supposing the charges were but a little reduced. Competition will improve the conduct and behaviour, both of steam carriage and rail-road proprietors; and therefore

it is that I heartily wish success to the establishment of steam carriages.—I am, Sir, your obedient servant,
A LONDON AGENT.

POLITICAL ECONOMY OF RAILROADS.

TO THE EDITOR OF THE GLOBE.

The three public companies that have commenced their monopoly of the passenger-carrying trade of this country have all done it upon one system—charging the highest possible rate that the public can pay, thinking, like many by-gone political economists, that the highest tax will produce the greatest revenue. A railway is neither more nor less than a labour saving machine, and should of course be constructed at the smallest possible cost consistently with its permanency. No money should be laid out in expensive ornaments, decorations, and the like. What would be thought of a cotton-spinner, who, instead of erecting his mill in accordance with the present admirable system, were to ransack Greece and Rome, Egypt and India, to load the exterior with columns, pilasters, entablatures, &c., &c.? But we have no spinning-mill monopoly—the object to be attained, like that of all machinery, is to provide for the public at the smallest cost. What I wish to call your attention to is, that the commercial world (who I am sure are amongst your best supporters) have a right to demand from these monopolists the carriage of their goods and persons at a fair rate of profit; and that 9 per cent., and a bonus of 20% and 40% now and then, is rather too much to get out of the commercial men of this country, when it is a fact well known to all travellers in Belgium, that a person can go from Antwerp to Brussels (thirty miles) for 1*fr.* 25*c.* (one shilling), in one hour and a quarter, in a second class carriage, outside, the bulk of the passengers being carried in that way; there are inside seats, the fare of which is two francs each. The only extra expense to the company for carrying persons inside is the extra capital employed in the construction of inside carriages, scarcely worth taking into any calculation, the proportion being so small compared with the cost of forming the line, locomotive power, &c. Contrast this with the Liverpool and Manchester Railway Company charging for one mile more, at the same speed, 5*s.* 6*d.*; or if you subject yourself to a journey of treble the time, 4*s.* The Grand Junction Railway Company charge for 98 miles one guinea, or at the slow rate, 14*s.*; and the London and Birmingham Railway Company, for 32 miles, 7*s.* 6*d.*, and at the same speed outside, 4*s.* 6*d.*; being by the

Antwerp and Brussels Rail-

way for.....	30 miles	1 <i>s.</i> 0 <i>d.</i> or 1 <i>s.</i> 8 <i>d.</i>
Liverpool and Manchester ..	30 "	5 <i>s.</i> 4 <i>d.</i>
Grand Junction	30 "	6 <i>s.</i> 5 <i>d.</i>
London and Birmingham ..	30 "	7 <i>s.</i> 0 <i>d.</i> or 4 <i>s.</i> 2 <i>d.</i>

On the average, *six hundred per cent.* above these dilatory foreigners.

I ask you, as Editor of a decidedly commercial journal, and as the one more especially referred to and read by the whole of our migratory species, whether this is fair? It will be in vain to reply, living is cheaper in Belgium; an English engineer laid out the road—English engines and engineers work the trains—it is quite well known that the Belgian government derive a considerable revenue from it ($7\frac{1}{2}$ per cent.); and I see no cause, if the same principle be adopted in this country, why the revenue of our railroad proprietors should be diminished—that the public would be benefited who can doubt? At the foreign rate a person would pay 7*s.* from Liverpool or Manchester to London, instead of 3*l.* 10*s.*, the present fare by coach. Would not this enhance its value among the inventors of the present day? We may perhaps in a few years, by the competition of the steam boats to Margate, Ramsgate, &c., with the Brighton, Southampton, and

other railroads, see in our own country at what low fares passengers can be carried. Allow me also to refer your numerous readers to a sure guide as regards the present passenger traffic on all the great lines of road—to "Pigot's Directory" (1836), where they will find the number of coaches (the names of which are inserted), between each of the principal towns mentioned below to be—

London	and Bath and Bristol	12
"	and Birmingham	16
"	and Brighton	28
"	and Norwich	6
"	and Southampton	9
Liverpool	and Birmingham } Grand Junction ..	8
Manchester	and "	
"	and Leeds	9
"	and Sheffield	6

There can be no doubt that this is disinterested authority. As I only wish to call attention to these points, by inserting this in your widely circulated journal, you will oblige
A COMMERCIAL TRAVELLER.

STAFFORDSHIRE HEMP AND FLAX COMPANY.

—A highly respectable meeting was held at Rugby last week, "for carrying into effect Mr. Donlan's inventions for the manufacture of sail-cloth, canvass, ropes and cordage of unequalled strength, soundness and durability, perfectly free from rot, mildew, or premature decay; and also of waterproof linen cloths of various descriptions, perfectly flexible and unaffected by the extremes of heat and cold, resisting alike the action of *boiling water* and of the most *intense frost*." The invention consists of three distinct parts, comprehending most important improvements, in the first principles of manufacturing hemp and flax whether the material be designed for linen fabrics, thread, twine or cordage, viz:—1. A new and improved machinery, applicable only to this method of manufacturing, whereby a larger quantity of fibre, without injuring the staple, than by modes hitherto adopted, can be obtained from the raw material.—2. The preservation of the fibre by a peculiar chemical compound, rendering the fabric free from mildew and premature decay.—3. The hitherto unattained process of rendering cloths waterproof, the fabrics remaining uninjured, flexible and unaffected by any variation of heat or cold to which they can, by any possibility, be exposed in service. The present capital of the Company is fixed at 175,000*l.* in 7,000 shares of 25*l.* each with power to increase the same if necessary.—On the motion of Major Chetwynd, M. P., the Right Hon. Viscount Ingestre, M. P. took the chair, and afterwards consented to be one of the acting directors, as well as a joint trustee, for the manufacturing process, in conjunction with Sir G. Sinclair, M. P., Thos. Pitt, Esq., and Jeremiah Barrett, Esq. The last-named gentleman, accompanied by W. Greatorex, Esq. solicitor, from London, was present at the meeting, and gave every requisite information respecting the objects and position of the Company. John Smith, Esq. the solicitor to the Company, explained the provisions of the Deed of Constitution, which appeared to give satisfaction, and a board of directors was agreed upon, which contains the names of Sir G. Sinclair, M. P., Thomas Pitt, Esq., Jeremiah Barrett, Esq., the Right Hon. Viscount Ingestre, M. P., the Hon. Col. Anson, M. P., Major Chetwynd, M. P., and other gentlemen and men of business. It was also announced to the meeting, that the Right Hon. Earl Talbot, the Earl of Lichfield, Lord Vernon, and Sir G. Pigott, Bart. had consented to become patrons of the company. Great inquiries having been made by several gentlemen connected with AGRICULTURE respecting the mode of culture of hemp and flax, as it will be required for the use of this company, it was determined that a short analysis should be published, which should give every requisite information to the farmer, and all

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hose wishing to adopt the growth of these articles. The committee announce "that the leading objects which this Company has in view, are to introduce the more general use of Home and Colonial hemp and flax, by which an immense capital annually will be retained in this kingdom—to give encouragement throughout the British Dominions to the culture of these articles which, by the Company's chemical and mechanical process, can be made incalculably superior to the best foreign produce, and much more efficiently available for all the purposes to which that produce has been hitherto applied."

SALE OF BREAD (IRELAND) BILL.

This bill has been prepared and brought into Parliament by Messrs. Beamish and Hutton, the Members for Cork and Dublin.

The bill is entitled, "A bill to repeal the several acts now in force relating to bread to be sold in Ireland, and to provide other regulations for the making and sale of bread, and for preventing the adulteration of meal, flour, and bread, in that part of the United Kingdom called Ireland."

The preamble of the bill sets forth that the act passed in the sixth and seventh years of the reign of his late Majesty, for the regulations of the manufacture, &c. of bread, having been found beneficial in England, it is deemed expedient to extend its provisions to Ireland, and to repeal the several acts in force in this country, and accordingly.

Clause 1. Repeals the several acts heretofore in being.

2. Enumerates the various articles which may be used in the manufacture of bread, and the ingredients which may be mixed with such articles.

3. Bakers may make bread of any size or weight they may think fit.

4. Enacts, that from the commencement of this act, bread shall be sold by weight and not by measure.

5. Weight to be avoirdupois of 16oz. to the pound under a penalty not exceeding 40s. nor less than 10s.

6. Bakers to provide in their own shops, beams, scales and weights, and to weigh the bread when required.

7. Bakers and sellers of bread delivered by carts to be provided with scales, weights, &c. for weighing bread, if so required.

8. Enacts, that in case of any adulteration of the bread by the baker, or by any journeyman or person in his employment, on any account or pretence whatsoever, the person so offending shall, on conviction, forfeit a sum not exceeding £5. nor less than —, or in default thereof, shall be imprisoned for any time not exceeding three calendar months. Magistrates empowered to publish the name of the offender, place of abode, and offence, in the newspapers, and the proprietors thereof indemnified by the act from any prosecution for such publication.

9. Any person adulterating corn, meal, or flour—selling flour of one sort as flour of another sort, or inferior to sample, or practising fraud to increase its weight, shall, on conviction, forfeit a sum not exceeding £10, nor less than £2; one half to go to the poor of the parish, and the other to informer.

10. All bread made wholly or partially of peas, or beans, or potatoes, or of any grain other than wheat, must be marked with a large Roman M.

11. Magistrates or peace-officers by their warrant, authorised, on sworn informations being lodged, to enter any baker's or miller's premises, and search for adulterated meal or flour, and, if found, to seize and carry it away.

12. Penalty for first offence not more than £10, nor less than £2. Second offence £5, and every subsequent offence £10, or imprisonment for three months, and publication of name, &c. as in clause 8.

13. Penalty for obstructing search, a sum not exceeding £10. This clause also provides, that in case any baker shall make it appear that the offence with which he has been charged, and for which he has been fined, has been occasioned by the wilful act of his journeymen, or servants, such journeymen, &c. shall be apprehended, and, on proof be adjudged to pay reasonable compensation, or in default, not less than one month's imprisonment and hard labour—no baker to employ such offender for six calendar months on pain of £10.

14. Bakers baking bread, &c. on any part of the Lord's Day, or selling or delivering same, except between nine in the morning and one in the afternoon, shall forfeit for first offence, 10s. second, 20s. every subsequent, 40s. Bakers may, however, set and superintend the sponge for the following day's baking, and may also deliver to customers until half-past one on said day, baking, i. e. baked dishes, &c. (but not bread.)

15. Enacts that if any journeyman, apprentice, or servant, shall refuse to work, &c. on account of his employer having one or more apprentices, or leave his service without a week's notice, or shall be guilty of entering into illegal combination against any baker, he shall forfeit a sum not less than 20s. or more than £5, or in default, confinement for any time not exceeding three months—no baker to employ such offender for six months after, under a penalty of £10.

16. No baker, miller, &c. to act as Justice of the Peace.

17. Penalty for opposing the execution of the act.

18. Relates to the recovery and application of penalties and forfeitures.

19. Form of summonses against offenders.

20. Form of information.

21. Information to be laid before the acting Magistrate of the district.

22. Empowers Magistrates to summon witnesses, allow them expenses, &c.

23. Relates to penalties for false evidence.

24. Form of conviction.

25. Proceedings not to be quashed through any informality.

26. Persons convicted may appeal to Quarter Sessions, whose decision to be final.

27. Notice of actions to be given twenty-one days before, and plaintiff not to recover on tender of amends.

28. Limitation of actions to six months after committal of offence.

29. Informations must be lodged in fourteen days after committal of offence.

30. Directs application of penalties.

31. Act to have effect in one month after its passing.

32. Shall be deemed a public act.

33. May be repealed or altered in present session.

The Minister of Commerce and Agriculture has granted a sum of 1,000*l.* towards the expenses of the experiments about to be made by M. Andouin, at Argenteuil, on the means of destroying the *Pyralis*, the insect which does so much damage to the vines in that commune. The Minister has likewise made a grant to the model farm at Grignon towards the payment of the salaries of the professors and other expenses of the establishment. The terms for pupils are consequently reduced—viz., those who have chambers, from 1,500*l.* to 1,200*l.*; those in small rooms, from 1,300*l.* to 850*l.*; and day pupils to 200*l.* The institution is capable of receiving 120 pupils.

ROYAL SOCIETY AND CENTRAL SCHOOL OF HORTICULTURE AND AGRICULTURE.

PROFESSOR JOHNSON'S LECTURES ON BOTANY.

After recapitulating some of the topics of the preceding lectures upon the development of vegetation, the learned Professor commenced with remarks upon the grasses. These grow in all parts of the world promiscuously, and without cultivation, and being the principal nutriment of man, their cultivation follows him in society and his migrations. The Mogul and Caucasian races of men subsist upon wheat and barley; while rice and mullet form the food of the Negro and Malay, and the tribes of ancient Mexico were bounded by the cultivation of maize. The cultivation of the earth preceded the improvement of the intellect, and was the herald of civilization. It is remarkable, that we have no direct criterion of the origin of many of those grasses met with everywhere in cultivation, as none of them are to any extent found wild. Some travellers have thought that barley was indigenous to Tartary, rye to Creta, and wheat to Asia; but these might have been diffused from some cultivated some years previously. Corn is not only the support of man, but the grasses are the subsistence of the animals which form his nutriment. The nutritive quality of grasses, is principally owing to the sugar which they contain, and of which some English grasses contain large quantities, but the sugar cane is the only grass that is exclusively cultivated for obtaining this article for commerce. The grasses are applied to a vast variety of important mechanical purposes; they are found in every part of the world, from the Poles to the Equator; on the land, as well as floating on the water, and are the universal food of animals. It has been estimated that the daily consumption of corn in England and Ireland, is, 1,238,096 bushels of wheat and barley; besides annually, 100,000 bags of rice, and 450,000,000 lbs of sugar. Besides these may be estimated as the immediate products of the grasses, which, consumed by animals forms the food of man, a quantity of almost inconceivable amount. In London alone, is annually consumed 155,000,000 lbs. of butcher's meat. Of cheese, another production of grass, 11,500 tons are annually introduced into London, from Cheshire; about 20,000 tons from Warwickshire, besides that from several other counties. Of butter, the annual consumption is almost 50,000,000 lbs., the produce of 300,000 cows; and in London, between 9 and 10,000 cows are kept for the supply of milk to the inhabitants, which produce an annual supply of about 30,000 millions of quarts. All these are the immediate products of the grasses.

Most culinary vegetables belong to the cruciform; umbellate, or papilionaceous varieties of plants. The first is so named from four petals forming the flower, being disposed in the form of a cross, as in the wallflower. It may be remarked, that not a single species included in this group is poisonous, but that the whole, if not absolutely employed as food, are not deleterious. The cabbage, cauliflower broccoli, sea kale, turnip, mustard, and almost all culinary vegetables, but spinach, belong to it. Another extensive group, is the umbelifera, so called from the arrangement in umbels, the main flower stalk diverging into a number of spokes like an umbrella. Although this class contains many used as condiment or food, many others which are very poisonous, are associated with them, as the hemlock. We know too little of the natural affini-

ties of plants, to enable us to distinguish the poisonous, from those that are not so; as the sweet chervil of the garden, which is often mistaken for hemlock nor the common celery mistaken for the same. Accidents from this kind are not uncommon, and it was from eating drop-wort that grows upon the banks of the Thames and other rivers, instead of celery, that several convicts died at Woolwich, three or four years ago. The papilionaceous, include many used for food, as pulse, beans, peas, tares, saintfoin, and others, and are so named from the fancied resemblance of the flower to a butterfly. The fruit forms a pod, called a legume, and the plants are therefore called leguminous; of many of them, the seeds are food for man, and the stem and leaves of some, are food for cattle; but the seeds of the laburnum, and many others, are poisonous. Although were not yet sufficiently acquainted with the characters which may enable us to distinguish the qualities of all, yet, Decandolle has furnished us with a sign by which we may in some measure distinguish betwixt those which are poisonous or not. It is by observing how the leaves spring from the seed, which are found to be very dissimilar. Some throw their lobes above the ground, and are of a green colour, as in the laburnum. In most of this kind of plants cultivated for the purposes of food, the leaves remain beneath the soil; but although this cannot be taken as an absolute criterion of a wholesome plant, from the circumstance that some of them throw up their leaves, it is a well recognised fact that no poisonous plant keeps its leaves beneath the surface. The potato is a member of a poisonous and narcotic order, being included in the same as the hemlock, nightshade, and mandrake. The potato being wholesome, seems to mark another feature, that some parts alone are poisonous whilst others are not, and that this poisonous principle may reside in different parts of the plant. In the poppy, the seeds are not poisonous, but on the contrary, highly nutritious; in some parts of the continent being a food both for man and animals. It is used extensively for the adulteration of oil; a large portion of the olive oil imported from France being almost exclusively composed of it. The fleshy part of the plum and other fruits is good for food, and nutritious, whilst the kernels and leaves are highly poisonous, containing hydrocyanic acid. The tubers of potatoes when roasted, are good, but the stem, leaves and other parts of the plant are deleterious. The tubers, when on the ground and exposed to the surface of light, become green, and taste badly. In its history the potato presents the same hemisphere as various kinds of corn. It was not known in the Eastern hemisphere, or the Old World, until after the discovery of America, where it was found cultivated in Peru, from whence it was introduced by Sir Walter Raleigh into Virginia, in 1586. It is supposed to be indigenous to the Andes and Peru, but it is not found there in a wild state by travellers. In many parts of Asia Minor, the soil is covered with the citron, cherry, pear, and other varieties of fruits. Although we are ignorant of their native spot, they may have formerly been introduced into these parts and cultivated, and point out ancient civilization. Many ages ago, science and civilization were confined to certain parts, and from countries in proximity to the Euxine Sea, the Gulph of Persia, and other parts, was Europe indebted for its supply of almost all descriptions of fruit and vegetables. In the time of Cato, the Romans were neither acquainted with peaches or mulberries; in that of first Tarquin, the olive was not known to exist in Italy, Spain or Africa; in that of Appius Claudius, olive oil was rare; but now, all the neighbouring countries derive

their supply from these parts. In the time of Pliny, it was introduced into France and Spain. The vine, all the varieties of which originally sprung from one species, modified by climate and cultivation, is interesting in its genealogy. It was not known originally in Europe, but followed man in his migrations. It is found wild in the Caspian, though we have no reason to suppose it originally to have been so. From Greece it was introduced to Sicily; by the Phœceans it was carried into the South of France; by the Romans to the banks of the Rhine; from whence it was extended to the various islands of the Mediterranean. Several of the fruits so important in the tropical regions, as the banana, the date, cocoa-nut, &c. have the history of their origin involved in the same obscurity as the European plants just named.

The solid matter of which vegetable substances are principally supplied from the earth, is carbon or charcoal, which principally comes through water. In plants growing in the arid sands of tropical regions, which are scarcely susceptible of supporting vegetation, we find very little carbonaceous matters, a small proportion of the solid principle being combined with a large quantity of aqueous juices. There are certain other principles which must be furnished from the soil; and if it be destitute of these, the plant cannot be fostered, and hence the difficulty of cultivation, from not knowing the chemical nature of the earth and soil. Plants growing in the neighbourhood of the ocean, contain soda, which has its origin in the spray of the sea to which they are exposed; the common *eryngo* will grow in such situations, but not in a garden, from the want of sea-salt. It has, however, been kept alive under such circumstances, by watering with water in which sea-salt had been dissolved. The matter of flint, or silica, is contained in considerable quantities in many plants, as in the common cane; if two pieces be rubbed together they will produce a light from this circumstance. When we examine the cuticle, we find a considerable quantity of minute flinty matter, which produces the light. Mechanics are in the habit of using a vegetable production called Dutch rush, but which is not common in this country; it is used by cabinet-makers and workers of brass, for polishing, where it acts like a fine file, caused by an innumerable number of pieces of rock crystal. Two causes may be assigned for the presence of this:—it is either imbibed by the plant in a fluid state, or produced by a certain specific vital action in the plant. As we do not know any instance of the latter, the former may be assigned as the probable cause. Such plants will not grow without silica, and in situations where plants do not flourish, it is owing to the circumstance, that the soil does not contain its proper quantity of proper earth.

Lime is a well known substance, existing in vegetables in various proportions; in some being contained in a considerable quantity. It is always in combination with an acid, either the carbonic or the phosphoric, analogous to chalk or animal bone. One probable cause of the fertility of lime, when applied as manure to soil, is in the carbonic acid which it absorbs from the atmosphere, presenting it in a form by which it is readily decomposed. The soils which contain lime are most favourable for the growth of corn; and wheat never flourishes more than where it abounds. It is contained in grain in such quantities, than it is computed that every person who consumes 1lb. of bread daily, will, in the course of one year take into his system 3lb. 6oz. 3 drachms, and 44 grains of phosphate of lime. This circumstance is the reason why it is of superior quality

over other grain, as it forms the principal part of human bodies. It is found in milk, where nature seems to indicate that it is contained for the nourishment of the young animal, from the remarkable fact, that when they are able to take other food, the milk loses its proportion of this substance. Although phosphate of lime is contained in considerable quantities in the adult secretions, it is not known in those of the young, being all taken up for the purpose of nutriment. The shells of birds are formed of this substance, and Dr. Paris has ascertained the singular fact, that if the legs of a hen be broken, she will lay her eggs without shells until these are repaired, for which the lime is required. Hens will also lay their eggs without shells if there is a deficiency of lime in the yard in which they roam. It is a remarkable circumstance, that although the grain contains the phosphate, the straw contains the carbonate of lime. Carbon is, next to water, the principal support of vegetation. In the formation of soil, the earthy and crustaceous lichens are planted first; these die and form a bed for the seed of the mosses. In the fertilization of land, different operations are going on; the roots of the *eryngo* run five or six feet from the stem, they then die and form the vegetable matter or black mould which covers the barren rocks that cover the globe. Nature herself realizes the fable of the phoenix. Man, the lord of the earth, is subject to the same laws as all other created beings; furnishing after death food for others, as myriads have done before; and we trample on others alike in beauty and decay.

DEATH OF SIR REGINALD MACDONALD S. SETON, OF STAFFA, BART.—It is with unfeigned regret we announce the death of this gentleman, which took place at his house here at nine o'clock on Sunday morning last, after a lingering and painful illness. Sir Reginald is well known to the public as the secretary for many years of the Highland and Agricultural Society of Scotland, and as the sheriff of Stirlingshire, the duties of which office he discharged, for a period of upwards of twenty-six years, with a zeal and fidelity which, it may be said, proved to himself fatal, as from exposure to cold, and over fatigue, in suppressing the alarming riots which prevailed during the late election at Stirling, he was first attacked by the distressing malady which ultimately deprived the country of his valuable services. At the early age of twenty-one he was elected, and for thirty-nine successive years continued to be, ruling Elder for the Presbytery of Mull to the General Assembly—a fact perhaps unparalleled in the annals of that venerable body. Sir Walter Scott, who knew and enjoyed his friendship, and his acquaintances, will acknowledge to be true when he wrote—

“Warmer heart, ’twixt this and Staffa,
Beats not than in heart of Staffa!”

The honorable baronet was in his 61st year, and is succeeded in his title and estates by his son, now Sir Henry Macdonald Steuart Seton.—*Scotsman*.

IMPROVED RYEGRASS SEED CLEANER.—We had last week an opportunity of seeing this very useful machine at work, on the premises of Mr. Imrie, seedsman. It was first invented by a person in Haddington, and it has since been much improved by Mr. James M'Nabb, wright, Old Toll. One of the principal improvements is that in elevating the sieves by means of a roller and lever, which throws down all the refuse of each sieve into separate apartments without stopping its motion. By the aid of this machine, together with a set of fanners much improved by Mr. M'Nabb, rye-grass seed can be completely cleaned of every noxious weed. The size of this machine is 4 feet high, 7½ long, and 3½ feet broad.—*Ayr Observer*.

DURHAM AGRICULTURAL SHOW.

The annual meeting of this valuable society for the exhibition of live stock, took place on Friday, the 30th March, and drew together an immense number of gentlemen and breeders from all parts of the country, who seemed highly gratified with the splendid specimens of short horns. The three year old bull "Newton," was universally admired for his symmetry and general good qualities. The yearling bulls were allowed to be very superior; the winner of this class "Baron," (the property of Mr. Wetherill,) attracted the attention of every spectator on the ground; in fact, some idea of his superior qualities may be formed when another in the same class was purchased by a Lancashire gentleman for 75 guineas. A boar, the property of Mr. Wood, of Kimblesworth, was also allowed by all to be one of the most perfect specimens of the kind that had ever been exhibited in the county; this animal, (late the property of R. Tinkler, Esq., Eden Grove, Westmorland,) won the first prize at Penrith Agricultural Show in 1837; the first prize at the Highland Society's Show, Dumfries; and the first prize at the Northumberland Show in the same year. The qualities of the cows, heifers, horses, and sheep were so nicely balanced that the judges had great difficulty in making their awards.

The following gentlemen officiated as judges on the occasion, viz.,—Mr. Hawdon, of Wackerfield, Durham; Mr. Severs, of Oliver, Richmond; Mr. Thomas, of Lowball, Hurworth; Mr. Fawcett, of Scaleby Castle, Cumberland; and Mr. Robinson, of Hutton, Yorkshire.

The judges awarded the premiums as follows:—

- Class 1. For the best bull under four years old, (seven competitors,) to Newton, the property of J. H. Spearman, Esq., Newton Hall.
- Class 2. For the best bull under two years old, (ten competitors) to The Baron, the property of Mr. Wetherill, Durham.
- Class 3. For the best cow in calf, (ten competitors,) to Mr. John Wood, of Kimblesworth.
- Class 4. For the best two year old heifer, (seven competitors,) to Mr. Crofton, of Holywell, by Lord Lonsdale's Gainford.
- Class 5. For the best yearling heifer, (four competitors,) to Mr. Whetherill, Durham.
- Class 6. For the best shearing tup, (three competitors,) to Mr. Wood of Croft.
- Class 7. For the five best gimmer hogs, (four competitors,) to Mr. Sopitt, of Low Barn Hall.
- Class 8. For the best boar, to Mr. John Wood, of Kimblesworth.
- Class 9. For the best sow, (seven competitors,) to Mr. Arrowsmith, of Byers Garth.
- Class 10. For the best blood horse, (six competitors,) to Mr. G. Smith's Wizard, by Ben Ledi.
- Class 11. For the best coaching horse, (five competitors,) to Mr. Joseph Worthy's Drover.
- Class 12. For the best cart horse, Mr. C. Wilkinson's Grey Chilton.

TO THE EDITOR OF THE READING MERCURY.

SIR,—Allow me, through the medium of your paper, (widely circulated in an agricultural district,) to express the very great pleasure I feel, on learning that a society is about to be established for the encouragement and improvement of the cultivation of the soil of England, *entirely unconnected with politics*. I allude to an advertisement in the *Mark-Lane Express*, relative to the formation of a Society to be called "THE ENGLISH AGRICULTURAL SOCIETY."

There is now a prospect of the agricultural interest becoming an *independent* portion of the community;—that, that interest will no longer be beholden to any government, or any party, for protection, (I mean as far as regards prices regulated by import laws.)

I presume that the new Society does not intend to exclude those who belong to other Societies, formed for the purpose of supplicating relief, protection, and assistance from the legislature; but that no question relating thereto shall be discussed by them as members of this Society; every one to his own way of thinking—in proper time and proper place.

I think it will be much better, both for landed proprietors and farmers, to depend on quantity and quality, rather than on artificial prices; indeed it would be also more generous; because, artificial prices can only be produced at the expense of some other class of society.

But, Mr. Editor, whilst I state my unbounded joy, that a Society is forming for the purpose of rendering the farmer and landowner independent of that broken crutch, "Legislative protection," on which they have so long supinely leaned, I humbly venture to suggest that *too much* dependence ought not to be placed on the efficacy of CHEMICAL MANURES (I mean manures produced by fire, or by violent, and consequently unnatural fermentation,) but, that our principal attention should be given to ascertain the best seasons for, and best mode of, minutely dividing and intimately blending together the various parts of the soil we work upon. Profitable light employment may I think be found in great abundance, not only for able-bodied labourers now unemployed, but also for children, aged persons, and those who are partially invalided; and which will make them—which I believe they are generally anxious to be—*independent of parochial support*.

I believe, sir, that every child of four years' old who scampers across his father's park astride a *toy-shop* rake, adds something to the stock of venison, beef, mutton, hides, tallow, and wool in that park; and that every infirm old man, or consumptive valedictorian, who leans against an oak tree for support, and picks off the rough loose parts of bark (which nature is evidently trying to discard) for his amusement, adds something to the growth, durability, and productiveness of that tree, inasmuch as the bark is the *soil* in, and under, which the roots of buds grow, and therefore requires to be assisted in admitting air to such roots. Public discussion on such topics, unfettered by party spirit, will I am persuaded, if followed up by industrious practice, tend very much—in conjunction with her manufacturing energies—to enrich this country.—Neighbours, I hope you will one and all, lend your support.

Henley, April 5th, 1838.

X. F. P.

THE NEW FOOD FOR CATTLE AND DOGS.

London, April 21 1838.

SIR,—Having for many years been a feeder of cattle, I have been induced to try the ground or grass nut oil-cake, and feel quite satisfied it is superior in its feeding and nutritious qualities to linseed oilcake; the quantity used by me for each beast, is about in proportion to the cost price of two linseed oilcakes per day, as we are giving our other feeding stock; we have seen them when killed, and find those fed on the ground nut cake, to die the fullest of fat and better colour.—Your obedient servants,

W. & M. DUCKITT.

Great George Street Bermondsey.

ON THE CULTURE OF WHEAT WITHIN THE TROPICS.

It has not been among the least of the evils resulting from the system hitherto pursued in our West Indian settlements, that it had a direct tendency to restrict the industry of the planters exclusively to those objects which created the greatest demand for human labour within the colonies, and commanded the readiest sale in other countries. The consequence of this exclusive attention to one or two objects of cultivation, calculated chiefly for foreign consumption, was a total neglect of those articles which were in every-day demand for the home market, and for which the inhabitants were thus rendered dependent upon other countries, and more especially upon the United States of North America. Among the objects the want of an internal supply of which has been at various times severely felt, few rank higher than wheat and the other cerealia, against the culture of which, although tried with success soon after the Spanish conquest, and although remnants of that success are still to be found, not only in various parts of the continent of America within the tropics, but even at a level little exceeding that of the sea in the island of Cuba, but little farther north than our own island of Jamaica, an unreasonable prejudice has prevailed in the minds of the planters, which no effort has been made to combat by the test of experience till within the last few years, when experiments made with the celebrated wheat of La Victoria, in the province of Caraccas, kindly supplied for the purpose by Sir Robert Kerr Porter, were first tried with the most triumphant success at elevations of from 2,000 to 4,000 feet above the level of the sea, in the island of Jamaica, under the auspices of Dr. Bancroft, the president of the agricultural society there, in the years 1834 and 1835; and still more lately, and with a still more striking success, at a level of only four feet above the sea, in the island of New Providence, under the auspices of the governor, Colonel Colebrooke, and Mr. Lees, the energetic and indefatigable secretary of the society recently established in the Bahama Islands for the diffusion of knowledge. Dr. Bancroft's account of the experiments made in Jamaica has already been published in the "West of England Journal of Science and Literature," for the years 1835 and 1836, p. 229; but as that work is not perhaps in the hands of many who are readers of this magazine, it may not be amiss to transcribe that part of the paper here for the purpose of giving it a wider circulation. Dr. Bancroft, speaking of the Victoria wheat, in his letter of the 9th July, 1835, writes as follows:—"Victoria wheat: the Jamaica Society have received samples from three or four different places of the wheat produced there, all of which appear to be of a favourable sort.

"First, from the mountains of St. Anne's, where the seed had been sown the latter end of January, and the corn was ripe the latter end of April. In another part of the same district, the dates of sowing differed from the above, but the wheat ripened in nearly the same period.

"Next, from the mountains of St. Andrews. On one property, Fair Hill, (about 2,000 feet above the sea) the sowing and ripening happened at the same dates as in the first-mentioned case. Of this corn one grain produced twenty-eight ears, containing altogether 1,500 grains (being an average of fifty-eight grains for each ear). Notwithstanding this apparent success, the proprietor thinks it unlikely that planters would grow the Victoria wheat in preference to the "great corn," as it is called here, i. e., *zea mayz*.

"On another plantation, again, Charlottenberg (about 4,000 feet above the level of the sea), the seed was sown early in March, and received a top-dressing; in the course of a few days it had already sprung up three inches above ground; and, as favourable moderate rains continued to fall subsequently, the corn thrived well, and ripened in the early part of June, producing abundantly grain of a larger size than the parent seed, the ears being large and full. Six of these, for instance, yielded 336 grains, weighing three ounces; making an average of fifty-six grains, weighing half an ounce to

each ear. Mr. W. B. King, an assistant judge of assize, and member of Assembly, has sent me two bundles of the ears of his wheat, and I intend to enclose one or two of them as a specimen of the produce of the Victoria wheat here. From the trial just made, Mr. King has no doubt that this grain could be cultivated in many parts of this island, and that it might become a profitable resource."

Such was the result of the first successful attempt perhaps ever made in a British island in the West Indies to cultivate this valuable grain; and yet, such was the force of long-cherished prejudices that, notwithstanding the enormous return of 1500 for 1, which we find was obtained at Fair Hill, and notwithstanding the shortness of the interval between sowing and reaping, which in no instance appears to have exceeded ninety days, we learn from Dr. Bancroft that the proprietor of that estate did not think it likely that the planters would prefer this crop to Indian corn, the common food of the blacks, although rarely eaten by the whites, except on occasions of scarcity. There can be little doubt that much of the success of this first trial is attributable to the circumstance of its having been made with a grain acclimated by the cultivation of two centuries within the tropics; since, as will be seen by the report of the experiments tried in the Bahama Islands with Caraccas and English wheat, that while the productiveness of the former is increased by its approach to a lower level and a hotter climate, the latter proved nearly a total failure. The following report of these experiments is transcribed from the tenth number of the "Journal of the Bahama Society for the Diffusion of Knowledge" for the month of March, 1836:—

"WHEAT.

"The following descriptions of wheat were planted on the 1st of November, in the garden attached to the government house, Nassau, New Providence:—

"DESCRIPTION.

- No. 1. English white wheat—fourteen grains of which are come up, but not yet in ear.
- No. 3.* Victoria wheat, English growth, raised from Caraccas seed—six grains, all came up, and have produced sixty-two stalks in ear, which are now ripening.
- No. 4. Red wheat—came up, and have produced six stalks, but not yet in ear.

"ACCOUNT OF THE WHEAT PLANTED AT THE SAME TIME BY MR. STORR.

- No. 1. English white wheat—not come up.
- No. 2. Victoria wheat from Caraccas—each grain has produced from fifty to sixty ears; each ear containing from seventy to eighty grains. (An increase of from 3508 to 4800 for one.)
- No. 3.* Victoria wheat, of English growth, raised from Caraccas seed—same.
- No. 4. Red wheat—has spread very much, having the appearance of grass, but has not yet (in four months) produced any stems."

In a former page of the same number (p. 120), detailing the proceedings of the society at their monthly meeting on the evening of Friday the 12th of March, his Excellency the Lieutenant-governor in the chair, we find the following paragraph:—"Mr. Lees stated, that he had been informed by John Storr, Esq., that each grain of the Victoria wheat which he had planted would be likely to produce 100 ears; counting only the very moderate number of fifty grains to each ear, this would be an increase of 5000 per cent., or five thousand bushels for one. Mr. Storr intends, in the ensuing season, planting a quarter of an acre with this wheat, from which no doubt abundance of seed will be obtained."

The island of New Providence, in which these experiments were made, like all the rest of the countless islands of various magnitudes which stud the ocean for a space of more than five degrees of latitude and as

* Qu. Grown in England, or in the British West Indies?

many of longitude to the north of Cuba and Haiti, is utterly destitute of high land, and the level at which the wheat was raised does not exceed the altitude of four feet above the ocean. The mean temperature of the summer months, from May to October, is about eighty-seven degrees of Fahrenheit, the entire range hardly ever exceeding two or three degrees; while the atmospheric pressure varies in general so little, that a barometer is regarded as an unnecessary instrument in so equable a climate. The soil is of two descriptions, neither of them possessing a depth of more than two feet, in general, above the substratum of coral rock upon which it rests. One of these, celebrated for the fine and highly-prized pine-apples which it produces, is of a red colour, and is formed chiefly of decayed vegetable matter; which, although of singular fertility during the rainy season, becomes soon exhausted by exposure to sun and wind, and in dry weather is so very fine and light, as to be frequently dissipated entirely by the action of the wind, leaving the rocky basis of the island naked and exposed. The other, a black vegetable mould, somewhat resembling the former, is, however, much inferior in point of fertility; it was in this soil the wheat was raised. Intermingled with both these, is a quantity of minutely pulverized madrepores, and other corallines, sea-shells, &c., which contribute little, if at all, to its fertility. Such a soil cannot be expected to be very retentive of moisture, and hence it cannot be a matter of surprise that much injury is frequently sustained from the want of rain. During the months of May and September, indeed, the rain descends in such impetuous torrents as to do scarcely less injury than the intermediate drought, carrying away the loose and yielding soil from every declivity with a force less capable of resistance even than the arid winds. On the cessation of the rains, the moisture rapidly exhales through the effects of evaporation, or is absorbed by the porous rock beneath, and everything of a vegetable nature, which is unable to subsist without moisture, or penetrates with its roots the pores and fissures of the subjacent rock, speedily perishes. Rivers, of course, cannot be looked for under such circumstances, and artificial irrigation is out of the question. It was, however, under circumstances thus unfavourable, under a temperature little, if at all, varying from that of islands more than ten degrees nearer to the line, at a level little exceeding that of the ocean, that the important results just detailed were obtained; and we are justified by these results in concluding that the results would be the same at the same level, but in more congenial soil, in Antigua, Barbadoes, Nevis, St. Kitt's, and the other islands, were the experiments tried with equal fairness, and the season for sowing selected with judgment. The advantage of securing an internal supply of so essential an article of human subsistence, not only to the population of the islands themselves, but even to the inhabitants of Great Britain, cannot fail to strike the most unobservant.

THE MANITA TREE.—So named from the singular shape of its flower, (*manita*, meaning a little hand) is a species of plant almost unknown in the catalogues of the botanist. It is supposed that only three specimens are in existence; two in the small botanical garden at the palace in the city of Mexico, and one at the town of Toluca; it is certain that no one in Mexico can tell from whence they originally came, or whence they may be found growing in a wild state; but as they were preserved, with many other foreign productions, by the Emperor Monteguma, it is imagined that either himself or his ancestors must have obtained them from the interior of South America. The tree is about forty feet in height, with a small trunk, without branches almost to the top; but the boughs then stretch a considerable distance, with large leaves and numerous flowers hanging downwards from among the foliage; it bears a stronger resemblance to the plane or tulip tree than any others we are acquainted with. Tradition states that though the Indians did not actually worship the manita tree, yet they regarded the flower with a sort of religious veneration.—*Beaumont's Illustrations of Mexico.*

MEETING OF AGRICULTURISTS TO OPPOSE COL. SEALE'S BILL.

On Thursday, April 19, a highly respectable meeting of wealthy farmers and others connected with agriculture took place at the George Hotel, Aylesbury, for the purpose of considering Col. Seale's bill now pending in the House of Commons relative to the corn laws.

The Marquis of CHANDOS took the chair, and among the most prominent of his supporters we observed Edward Horwell, Esq., John Brickwell, Esq., Moses Lovett, Esq., William Claridge Harding, Esq., and Messrs. Edward Stone, James Dovor, William Hayward, James Graves, &c.

Previous to entering upon the business of the day the following letter, addressed to John Howard, Esq., the secretary of the Bucks General Association, by the Cambridgeshire Agricultural Association, was read to the meeting:—

“Cambridge, April 2, 1838.

“Sir,—We the undersigned, the committee of the Cambridgeshire and Isle of Ely Farmers' Association respectfully submit to your consideration the following objections to the proposed bill of Col. Seale for allowing foreign corn in bond to be ground for exportation, and we hope they will be deemed of sufficient importance to induce you to oppose the measure in every remaining stage of its progress.—We have the honour to be, Sir, your most obedient servants.

(Signed)

WILLIAM THURNELL.

ROBERT WITHERS.

GEORGE BULLEN.

SAMUEL CAWCUTT.

JOHN ELLIS.

PETER GRAIN, Sen.

JOHN MARIS.

HENRY GIBLIN.

THOMAS IVATT.

HEADLEY EMSON.

JONAS WEBB.

WILLIAM HOLBEN.

THOMAS NEWMAN.

WILLIAM KING.

HENRY COLLIER.

WILLIAM BALLS.

JOHN TEYVERSON.

JAMES LILLY.

EDWARD MASON.

ROBERT IVATT.

HENRY ANGIER.

“First—That if nothing fraudulent be intended, or can be practised, no harm can result from the wheat itself being ground at the places to which it may be proposed to export the flour. Those places must have the means of grinding for their own consumption; if not, let them provide them.

“Second—That it is absurd to say that fraud is impossible, as nothing can be easier amongst other deceptions than to grind so coarsely, that the middlings, which are not intended to be exported, may be made equal to the fourth of the whole weight of the corn ground, and may be sold for the offal, and afterwards separated and re-ground by the buyer, and manufactured into coarse flour.

“Third—That even if the wheat be ever so fairly made into flour, the bran and offal, which are meant to be left and consumed in this country, will be equal to about the tenth part of the net value of the wheat ground, and to that extent must unavoidably be an injury to the English grower, and a breach of the corn laws.

“Fourth—That if the present bill should pass, the warehouses will be again immediately filled with foreign wheat, in the expectation on the part of the importers—an expectation which they will have a right to entertain—that the same permission cannot be refused to them, and so on *ad infinitum*.”

The Marquis of CHANDOS briefly adverted to the objects of the meeting, and pointed out what he deemed to be the inevitable injury that must result from the operation of such a measure as that introduced by Col. Seale.

Several of the gentlemen whose names are above given also addressed the meeting upon the bill alluded to by the noble marquis, and the grounds of objection particularly urged were, that the corn laws constituted the only security for the capital of the British farmers, and the necessity of maintaining them, unaltered and unimpaired, has been recently declared in the House of Commons by a very large majority. It was also con-

tended that the bill now before parliament for grinding corn for exportation is a direct violation of those laws; that the bill presents no guarantee against the frauds that may be practised whilst it affords every encouragement to an unlimited importation of foreign corn; that in their own defence, therefore, and on behalf of the farmers of Buckinghamshire, the meeting deemed it necessary to call upon the members for the county and borough to oppose by every means in their power the progress of a bill so ruinous in its tendency to the interests of the British farmer. After some further remarks resolutions were unanimously agreed to, embodying the views of the speakers, and the following petition to the House of Commons, praying that Colonel Seale's bill may not be passed into a law was adopted:—

"We, the undersigned landowners, occupiers, freeholders, and others resident in the county of Buckingham, beg most respectfully to express to your honourable house our entire dissatisfaction at the bill now before your honourable house to admit foreign corn to be ground in mills under the locks of the crown, and manufactured therein for exportation.

"Your honourable house having recently decided by a very large majority on the necessity of maintaining in all its integrity the existing system of the corn laws, respectfully submit that to allow this bill to pass into a law would be in direct violation of the corn laws, and highly detrimental to the interests of the British farmer.

"Your petitioners therefore pray that your honourable house will reject this bill.

"And your petitioners, &c."

Mr. HAYWARD moved, and Mr. LOVETT seconded, a vote of thanks to the noble chairman, which his lordship acknowledged, and the meeting broke up.

TRADE IN POULTRY AND EGGS.—The public are not, perhaps, generally aware that a very large portion of the poultry and eggs produced in this district find their way to the London market. The rapid communication which is now afforded to all parts of the country by means of the steam-vessel and steam-steed has, in fact, completely revolutionised the provision trade of the district, and local consumption or local demand has become almost a matter of secondary import. On Wednesday last there were two wholesale egg merchants in our poultry-market, who purchased most extensively at an average of fourpence halfpenny per dozen; and it is understood that but for the outlet afforded in this manner the immense supply would have depressed the price of the article to 3d. or 3½d. per dozen. These eggs are usually conveyed to Carlisle, where they are sold to the Newcastle dealers, under whose care they are whisked along the railway to the latter place, and then shipped in the Newcastle steamers to London, which usually perform the passage in thirty hours. The package and land carriage of ware so brittle is not the least important part of the business. Occasionally the eggs are put into boxes in the open market, but the most frequent mode is to place a layer of straw in the bottom of the cart, and then cover it with eggs, and so closely are these paved that it is scarcely possible to insert the bulk of a bean in any part. This done, another stratum of straw and another of eggs are added, and so on until the body of the cart is filled; and so compactly is the mass built together that you may place a lading of meal on the top without the slightest injury to the cargo below. In this way many hundred dozens are exported, and the damage at unpacking will not amount to more than a score in the total lot. Hens and pullets, too, have been extensively purchased by the Edinburgh carriers at from 1s. to 1s. 5d. per head. These are carefully fed on the road, and either supply the Edinburgh market, or find their way alive to the market of Leadenhall, in London, by the Edinburgh and London steamers. The long travel, instead of injuring the condition, acts as a species of stall-feeding to the feathered bipeds, and they, generally leave a handsome profit behind.—*Dumfries Paper.*

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—On Monday, the 16th April, by the kind invitation of my friend Mr. Loudon, of Bayswater, I accompanied him to Darnsford Lodge, near Wandsworth, to witness the examination of a fermented heap of manure, which had been prepared under the directions of a French gentleman, and decomposed by repeated drenchings with water chemically prepared. In the Repertory of Patent Inventions, No. 51, March, 1838, we find a patent granted to A. R. J. Rosser, of Boswell's Court, Middlesex, for preparing brown heather furze, rushes, vegetables, and all sorts of weeds by means of a saturating water. This water is prepared in a tank filled with all sorts of dead and decaying substances, offals of every kind, and mixed with 10lbs of slacked lime, and five ounces of sal amoniac; being then put into casks placed close to the heaps of manure, it is mixed with the following substances, and called a lessive, viz:—200lbs. of fecal substances and urine, 15lbs. of chimney soot, 400lbs. of powdered gypsum, 60lbs. of unslacked lime, 20lbs. of wood ashes, not lixiviated, one pound of sea salt, 10 ounces of refined saltpetre, and five pounds of the last drainage from a preceding operation where one has been made. The process of making saturating water in the tank and of lessive by the above compound, goes on regularly so as to afford a constant supply. The heap is drenched every two days by the lessive, and holes are opened to admit it; the fermentation may go on to 55 degrees of Reamur, if composed of straw only, and to 75 degrees if mixed with other substances. The compost will be ready in 12 or 15 days.

The heap I saw was about four feet in measure each way, and on being overturned piecemeal with a fork, the fermentation appeared to be very gentle, Reamur's thermometer in a tin case in the middle of the heap indicating 42 degrees, or 94½ Fahrenheit. The straw part appeared well fermented and in an excellent state for application, to judge from appearance, and the other parts heath, gorze, &c., appeared to be affected in the outside tender parts, and discoloured in the inside in the same way we have seen a twig that had lain for a time in a common dung heap. Three casks stood close by, containing the lessive for drenching the heaps. In all such experiments after the fermentation and partial decomposition have been satisfactorily effected, there remains to be made, a trial of the efficacy of such manures against other manures, the same quantity of each being applied to a certain quantity of land, and then to ascertain if the superior produce will cover the additional expence, and with profit. Granting that a quick chemical solvent may be found to decompose ligneous matter, still the quantity would be wanting, and though there can exist no doubt, that very powerful manures may be formed by such processes, the almost insuperable objection always stares us in the face,—if the superior value and efficacy of the manures will reimburse the farmer for his trouble and expence? Such manures may be prepared in small quantities by gardeners, or persons who have the means and opportunities at command; in such cases luxuries must be had at any price: rent is never demanded—expence is disregarded, and the balance of the cash book is never asked for. But with the farmer the case is wholly different, on the comparison and adjustment of expences and profits, the whole matter rests with him. But all such attempts, whether successful or unsuccessful, ought to be specially encouraged and patronized; they show the unceasing efforts of genius in trying to improve the practice of every art, and even if the repeated attempts of many years should all fail, and end in nothing, there still remains the hope, the chance and probability, that some lucky hit, some trifling accident, or casual observation—some fortunate idea of a talented individual may take place, and produce a beautiful theory and very successful practice, and most amply compensate for all the previous toils and disappointments. Every art has been advanced by such means; if no attempts

be made no advances can be expected, and we are confirmed in this hope by reflecting that the best laid schemes of human nature, and apparently of certain success, are often completely disconcerted by unforeseen and unavoidable occurrences, and that the puny idea of a boy or the casual observation of a labourer or a mechanic have introduced some of the mightiest alterations in many of our arts and sciences. For my own part, therefore, I would rather have hundreds of failures than no attempt at all, and however visionary, ridiculous, and absurd they may appear to ignorance and prejudice, and however much they may be sneered at and condemned—I am of opinion that every attempt which has a public benefit for its ultimate object, ought to be specially encouraged, and that those persons who engage in such pursuits show a very laudable desire to benefit the whole human race. There is no doubt that many theories have been advanced and have sunk into oblivion, but I do not infer from that circumstance that they were of no use; means and perseverance may have been wanting, and circumstances which baffle all human controul may have unavoidably interfered. Viewing the matter as I do in this light, and in the hope that in the course of human events some lucky experiment may succeed and amply compensate for hundreds of failures, I can by no means agree in the sweeping condemnation I have heard passed on such attempts, but consider them as very laudable efforts made by the restless activity of man in order to promote and advance the benefit of the human race.

I have been led to make these remarks on the eve of the formation of a society fully practical, and encouraging, and promoting such attempts as I have been describing; steering clear of the vortex of politics, and avoiding discussions which would only bewilder instead of improving or informing the agriculturists, the great use of such a society is to aid and bring forward by united efforts what may be too heavy for individual exertion; thus encouraging and rewarding the efforts of genius in attempting practical improvements, and which but for such aid might have lain for ever dormant. The formation of such a society will in my opinion constitute the brightest era in the history of British agriculture. In the furtherance of this object I do not know any individual who deserves more of agriculturists in general than the Editor of this paper and of the Farmer's Magazine, not only for the zeal and earnestness with which through fair weather and foul he has always advocated a society on just principles, but for the sound theoretical and practical views everywhere expressed on statistics in general. On this subject I may make some observations afterwards.

As I have been speaking on the formation of a manure, I shall use the liberty in a few words of calling the attention of landowners and farmers to the great neglect and waste of manures which takes place at present owing to the formation of farm buildings and yards. The houses are disjointed and inconvenient, the yards are large and uncomfortable, often on a declivity and discharge all the moisture into a pond, or on a road where it is wholly lost, and the straw is blown about by the winds. These large timber erections and scattered buildings cost more at the first outlay and more money in upholding than a compact range of houses built of stone and lime; for a comparison of expense I refer to an article in Farmer's Magazine, March 1838. In making quick and extensive alterations expense is no doubt incurred, but a new plan being determined upon, the houses would be built and introduced gradually as the old ones decay and wear out. The yards at Holkham and in many places in the northern parts of the kingdom are specimens of the square and compact form so necessary to keep manure in a moist state and to present as little surface as possible to atmospheric influence. Many excellent plans of farmeries and estimates of cost have been published in London's Encyclopædia of Architecture, in the transactions of the Highland Society, and in other publications, yet no advantage is taken of such useful works, and the old system is still continued to the great and evident loss of the landowner and farmer. It is on account of example being

so much more powerful than precept, that I have always suggested the propriety of societies having a farm or farms in order to show the most complete forms of buildings and mode of cultivation in every respect. The few landowners who have been induced to make good erections have greatly overshot the mark, being led away by architects to throw away money on size and ornament, wholly unnecessary and useless to the farmer. The size of the farm and value of the land have been entirely overlooked, and when we see barns so many in number, we very naturally inquire the use, and if the money would not have been better expended on other accommodations. The contemptuous sneers of prejudice and ignorance generally directed against experiment and the name of experimental farms are totally unworthy of the least regard, proceeding from self-conceit, ignorance, and from not exercising our reason, "the column of true majesty in man," they will soon fall before experience and perseverance, and those who sneer most point out themselves to their fellow mortals as specimens of the lamentable want of education, the radical and only effectual cure.—I am your obedient servant,
JOHN DONALDSON.

London, April 20.

We have received within the last few days a tabular statement of the export trade of St. Petersburg during the year 1837, as compared with the two preceding years. The table is drawn up by the eminent house of William Brandt and Co. and is, we have every reason to believe, perfectly accurate. The table is too large to permit of its being inserted here; but the following facts, extracted from it, will doubtless be of interest to our readers, as they will tend to show how important a part of the trade of St. Petersburg depends on a maintenance of friendly relations with Great Britain.

The number of vessels that sailed from St. Petersburg during the year 1837 for foreign ports, amounted to 1,248, being 11 less than in the preceding year, and two less than in 1835. Of these vessels, 1,131 were bound for British ports, 58 for Dutch, 73 for French, and 45 for American ports; 65 only were in ballast, but of these the destination is not stated in the table before us.

The most important articles of export from St. Petersburg during the three years, 1835, 6, and 7, were as follows:—

	1835.	1836.	1837.
Iron..	133,606 Puds.	1,136,396 Puds.	701,037 Puds
Hemp.	2,033,842	2,047,320	2,017,104
Flax..	203,757	655,271	528,555
Tallow.	2,622,388	3,454,866	3,841,355
Potash.	344,728	299,060 ..	340,602
Hides..	128,875	103,913 ..	36,492
Bristles.	45,212	53,448	48,646

The proportion of these exports, in 1837, which were shipped for British ports, were as follows: Iron, 351,514 puds; Hemp, 1,355,663 puds; Flax, 488,608 puds; Tallow, 3,343,210 puds.; Potash, 229 lbs.; Hides, 33,221 puds; Bristles, 36,853 puds.

In the minor articles of isinglass, linseed, cordage, and deals, the proportion of the exports destined for England is equally large. Linen forms one very important article of export from Russia, but of this more than three-fourths of the whole quantity shipped in 1837, was destined for the United States. Hemp-oil is likewise exported in large quantities, but none of it seems to find its way to the English, and very little to the American market, the chief customers for this article being Germany, Sweden, and Holland.

The above facts will sufficiently account for the maintenance of peace between the two countries, notwithstanding the political jealousy which has been growing up between them, and which has somewhat inconsiderately been fostered by certain parties in England: to Great Britain a war with Russia would be attended with a loss much more serious than it is at all agreeable to contemplate; to Russia such an event would be likely to prove a stunning blow, by almost annihilating the whole export trade of the country.—*Courier*.

THE DECISIONS OF THE JUDGES AT THE LATE SMITHFIELD CLUB.

SIR,—Had your correspondent M. S. confined the remarks in his letter of the 22d of March, which I have read in one of your papers, to the relative merits of short-horns and Herefords I should not have noticed it, as it must have been evident to every impartial minded person who may have read the various offers that I have made, that the chance of having their respective merits fairly tested even as show cattle, is quite hopeless; there is not a short-horned breeder of any eminence, who will risk the reputation of the breed by entrusting either an ox or steer of the sort, which is intended for the London Christmas Cattle Show, into the hands of any grazier to be kept out, and fed on grass only, through the summer months preceding the show; in like manner to which Mr. Senior keeps his oxen, whether to be shown in the first or any other of the classes; this, not one of them *dare* do, well knowing it would put to rest, which would prove to be the most profitable.

I will now sir proceed to notice that part of your correspondent's letter which induced me to trespass on your columns, viz., where he calls the attention of your readers to the remarks made in many of the newspapers, but more particularly to a letter which appeared in *Bell's Weekly Messenger*, signed "Bucolicus," respecting the decision of the judges at the late Smithfield Cattle Show, and also, more than censuring the conduct of Mr. Senior thereto relating. Sir, as Bucolicus has taken unusual pains to benefit, as he would make it appear "the future welfare of the Smithfield Club," I beg to call the attention of your readers to the very laudable method he has adopted to effect it.

This righteous unknown first writes a letter, causes the same to be printed, distributes copies of it to every member of the Club, sends one to *Bell's Weekly Messenger* for insertion, and pays for it as an advertisement; all this in his professed zeal has he done, but as his letter contains wicked falsehoods, which I will presently show, and as he refused when called upon by the Editor, Mr. Bell, to give up his name, will, I think be quite sufficient to convince the public that he had other motives than the welfare of the Club to induce him thus to act. Neither Mr. Franklin, or Mr. Oldacre was ever in Mr. Senior's house, or on his farm, and the invite given by Mr. S. to Mr. Jellicoe to visit him was made and accepted, before the latter had been applied to act as judge; hence, I can fairly retort on "Bucolicus" the old adage of *Honi soit qui mal y pense*, and set at nought his scurrilous and anonymous libel; but had it been subsequent to the appointment, I do not believe there is a man to be found, who has any knowledge of Mr. Jellicoe, that would not laugh to scorn the idea that a dinner or else, could induce him to swerve from that integrity for which the name is proverbial, and on which I happen to know he sets a just value.

Sir, having thus falsified the assertions of "Bucolicus" relative to Mr. Senior *bribing* the judges by a dinner &c!! I beg further to claim the attention of your readers to his other grave charge, namely, that of their "wrong decision so obvious to all," in the second class. Having read and heard so much about this decision, I wrote to my friend Mr. Jellicoe on the subject, from whom I received the following observation. "To be qualified, no ox in the second class is allowed either oilcake or meal, till the 1st day of August preceding the Show; and on comparing the certificates we found that the ox, to which we gave the first prize in that class, had consumed *less* oilcake and meal in nineteen weeks by *one ton 5 cwt.*,

than the ox to which we gave the second prize, and to which we should have awarded the first, but for the *vast* difference in the value of the food they had respectively consumed in so *short a space* of their lives this coupled with their weight, and value to the butcher, which we considered nearly equal, induced us to decide as we did. On one thing you may rest assured, we decided in that, and in all the other classes, according to our conscientious belief, therefore what has been or may continue to be said, or written about it, will never disturb my peace of mind for one moment; it is natural for *disappointed candidates* for fame &c., to forget at times their property, but surely that of the dastardly "Bucolicus" must have been great indeed, to have induced him to ascribe to men not a jot less honourable than himself, the base motives he has done."

From the above quotation it is only fair to infer, that whatever the opinion of "Bucolicus," or any other member of the Club may be, as to the decision of the judges at the late Cattle Show, it was an honest one, and if such decision did not happen to square with opinions of all parties interested, it is not the first time by many, that similar complaints have been, though probably not quite so violent. Hereford breeders are not so very tenacious of defect.—I am sir, your most obedient, and obliged, JOHN PRICE.

Poole House, Upton-on-Severn, April 18, 1838.

THE ENGLISH AGRICULTURAL SOCIETY.

[Feeling persuaded that the sentiments contained in this letter will meet with the general approbation of our readers, we venture to publish it, although we have not been directly authorised to do so. The desire of our esteemed correspondent to forward the good cause will induce him to excuse us.—Ed.]

Hathershaw Lodge, near Oldham, Manchester,
April 5, 1838.

SIR,—No new public institution could have given me so much satisfaction as the contemplated British Agricultural Society; it will be a national union of that desirable charter which combines every individual's advantage. The real wealth of Scotland has received additions incalculable from her national agricultural establishment, and England's field for improved cultivation, and the facilities she can command, offer sources inexhaustible for agricultural ameliorations. From a national institution, we may justly calculate upon a general earnestness amongst proprietors to improve their estates, and such a taste would divert attention from other pursuits less laudable, more expensive, of no public utility, but often the cause of individual disquietude and inconvenience; and the extensive benefits which will flow to all classes from a united and well-directed effort to enlarge the capabilities of our soil are, I believe, beyond the reach of human comprehension.

Actuated by such impressions, and from my earliest recollections having been ardently attached to rural pursuits and associations, I shall be happy to be enrolled as an annual subscriber to the British Agricultural Society, and I delight to indulge in the expectation that agriculture, the most ancient, the most noble of all pursuits, that which conduces most to health of body, peace of mind, sound judgment, and kind-hearted disposition, will become the most favourite and paramount of earthly considerations with the owners of the soil, as well as with those who live by its cultivation.

I am, Sir, yours respectfully,
JAMES DIXON.

AGRICULTURAL SOCIETIES AND THE TENANT-FARMERS.

Witnesham, Ipswich.

SIR,—“A tenant-farmer near Ipswich,” states in the Mark Lane Express that I “have formed *my opinion* of the anxiety of the tenant-farmers in this county for the existence of the central society from a very contracted knowledge of *theirs*.” I hate cavilling about anything, but as the truth in this case requires to be known, in reply, I think it probable that for every individual tenant-farmer's opinion he knows, that I may know a hundred.

As *my neighbour* gives me credit for not “wilfully misrepresenting the case,” I am not offended, but must shew my authority for so thinking. But *my neighbour* states “that if he is rightly informed, the Asbocking Club was suggested by an individual who never had any connection with the existing local societies?” Am I or your readers to infer from this that I have taken credit for establishing this club? If so, *my neighbour* is in error; I neither suggested the forming of the club, or induced any one to join it; I attended the first meeting *by invitation*; and was appointed chairman, which I neither wished or objected to; then why does *my neighbour* speak invidiously?

To his political creed I have nothing to say, “let each one in quiet his own hobby-horse ride,” but as Mr. William Everett, of Rushmere, “originated the Asbocking Club,” and is a staunch reformer I believe, it nullifies *my neighbour's* opinion of Tory influence. Mr. Everett drew up the resolutions which were decidedly and solely for protection and relief from taxation, and every individual then present, and those who joined the club afterwards offered no objection. The Yoxford Club adopted the same resolutions; the Harlston I believe the same, and a club is proposed to be established at Eye for general purposes; thus I think I had sufficient authority to state that the Suffolk tenant-farmers wished the central society to be upheld, and there is no difference between the resolutions of the *recent established clubs* so far, from those of the Framlingham and Ipswich societies. The East Suffolk, and West and South Suffolk associations are established by the aristocracy for cattle-shows, ploughing-matches, and premiums to servants, labourers, &c., and therefore *my neighbour's* splenetic remarks do not apply to Mr. Hart Logan, or do not apply to the protective societies.

That the proposed “English Agricultural Society” will be very beneficial there can be no doubt; and so are the provincial societies of *this nature* in each respective neighbourhood, but the *general* beneficial effects are very remote, and after all if we are only to improve our cultivation and stock, and be robbed of our fair share of remuneration for outlay of capital and exertions by a free trade we should have laboured in vain. The Aristocracy may presume on their power to prevent a free trade without a systematic mode of opposing it, but they may be deceived, and I have great reason to suspect they will be deceived if they divide opinion on the necessity of watching the progress of events, and not be prepared to support the political interests of agriculture, backed by a great body of the tenant-farmers.

My neighbour says that my opinion as to the reason the tenant-farmers did not attend agricultural meetings more generally is *erroneous*; viz., the late hour at which business commenced, and the distance a portion of them had to travel. To this I reply, that by a late hour I meant some hour or two after the time fixed, and thus drove those who had far to travel into the night, and not a late hour in the common acceptance of the word, as an evening meeting where *clubs are established* give an opportunity to *small working farmers* to attend without loss of time, and neglecting their business, and I find the small farmers are most punctual in their attendance at our club, and are most anxious to read the Farmer's Magazine, Blacker on Stall-feeding, and such other publications as relate to practical agriculture, viz. little books, each respectively treating on *one subject only*, and facts related in the Farmer's Magazine, and to plant small patches of newly introduced seeds and roots,

and shewing specimens of the progress and the produce of such on the various soils they occupy, and discussing the different modes of tillage, &c. Thus, Sir, it is evident that political bias does not interfere with us, and that many centres and short distance to travel would induce an immense number to join such clubs, and thus spread information in a tenfold degree, compared to mere annual cattle-shows and ploughing-matches, and that no Aristocratical influence is necessary to induce tenant farmers to join such societies; but still a central society is required to forward the views of the scattered provincial societies.

P. S. Contrary to *my neighbour's* opinion it was the opinion of all the members of the various societies I have attended during twenty years that excepting a comparatively few exceptions the Aristocracy did not only refrain from encouraging the tenant-farmers from endeavouring to protect their rights and interests, but deterred them from joining associations, and of this I shall speak hereafter.

Our next club day will be the first annual meeting, when I hope *my neighbour* will pay us a visit, which he may do *in cog*, as it is open to any one, and he will then hear the report of our sayings and doings since the club was established.

I remain, Sir,

Yours, &c.,

CHARLES POPPY.

UTTER REGARDLESSNESS OF THE LANDLORD TO THE INTERESTS OF THE TENANTRY.

BETRAYAL OF BRITISH AGRICULTURE BY THE CONSERVATIVES.—PROPOSED ASSOCIATION OF TENANTS AGAINST THEIR LANDLORDS.—THE CENTRAL AGRICULTURAL SOCIETY.—THE NEW AGRICULTURAL SOCIETY.

(FROM THE MORNING HERALD.)

We have, frequently, directed public attention to the melancholy fact, that the great conservative interests of the empire are but feebly attended to—nay, that they are in some respects directly betrayed—by the parliamentary leaders, in whom the conservative party has, hitherto, reposed confidence. In the House of Lords, the Duke of Wellington may be found, habitually, exchanging civilities with Lord Melbourne—and, occasionally, voting with the whig government, in opposition to his own conservative supporters. In the House of Commons, Sir Robert Peel, although from time to time, on *show* occasions, he hurls a powerful speech, against the foreign or colonial policy of the present occupants of office, yet he is, much more commonly, to be found screening them from the consequences of their delinquencies—or sanctioning, directly or indirectly, their pernicious policy:—and he has, never, during the present session, taken any opportunity of asserting, practically, his attachment to our established institutions—to the great conservative interests of the country!

The melancholy truth is becoming more apparent every day, that the conservatives of England cannot trust their parliamentary leaders. These leaders are, with rare exceptions, more than half-whigs! They are to be found, night after night, lauding, as if in rivalry of its whig projectors, the New Poor Law Act;—but are they ever found advocating the adoption of a single measure, that has for its object, the protection and encouragement of productive industry? Do the parliamentary conservatives make the slightest effort to remove from the agriculture of Great Britain, those causes of depression, which have been weighing it down for twenty years past? Do they ever concern themselves about securing protection for the shipping interest? Does the fate of the six or seven hundred thousand starving, or half-starving hand-loom weavers ever cost them a moment's anxiety? No:—instead of

guarding the interests of farmers, and shipowners, and labourers, they are to be found, month after month, and session after session, giving additional currency and importance to the principles of Malthusianism, and of the worst varieties of political economy:—wrangling, it may be, from time to time, with whigs and whig-radicals, upon points, to which men, who love our institutions, attach not the slightest importance;—but more frequently, nay almost habitually, eulogising, as we have stated, the New Poor Law Bill—or giving in their adhesion to the system of free trade—or refusing to inquire into the destructive working of the Currency Bill of 1819—that fatal bill, which (imperfectly brought into operation, as it has been) has nearly paralysed productive industry in all its branches—and, which, if attempted to be fully enforced, would, inevitably involve national bankruptcy, and the most fearful of revolutions?

The great conservative cause—the cause of the productive classes—is, in short, betrayed by the parliamentary conservatives! We write the words, more in sorrow, than in danger! If we attempted to conceal the fact, we should render ourselves parties to the treachery!

The parliamentary conservatives have, openly, abandoned the labouring classes to their fate, under the operation of the Malthusian poor law. They are preparing, in like manner, to throw the farmers of Great Britain overboard—to destroy, in fact, the very men, to whom they owe all their importance in society. The statement might seem incredible—if things, till now deemed incredible, were not, every day, taking place under our eyes! We shall point out the evidence, on which we make the assertion!

Some two years and a half ago, a society, styling itself the Central Agricultural Society, was formed, for the purpose, chiefly, of securing *protection* to the British farmer. Amongst the members were to be found nobles of high degree, baronets, and members of parliament, to whom more or less of public importance attached. The farmers, with that modesty which characterises them, were content to remain in the background, trusting almost exclusively to the efforts of their noble and parliamentary patrons! But these patrons, who seem to think there can be no misery in the world, *so long as rents are faithfully paid*, apparently had no other object in view, than to amuse the farmers, and to prevent any effectual protection being extended to agriculture! Most of these patrons were more or less tainted with the worst doctrines of political economy;—and none of them, at all events, loved the farmers, sufficiently, to make an effort, in opposition to the whigs, and the economists, to secure fair play—just protection—to the class of men, on whom, above all others, the aristocracy is dependent for its power and importance!

The farmers, soon, began to feel themselves cheated;—and, at length, the Cambridgeshire and Isle of Ely farmers—a body of agriculturists inferior to none in the world, in point of intelligence and energy—openly withdrew themselves from the Central Agricultural Association. They, at the same time, gave to the world, their reasons for doing so—and called upon the farmers, throughout England, to form themselves into associations from which landlords should be excluded.—The farmers of England, as they truly observed *must depend upon themselves alone!*

A meeting of the Central Agricultural Association took place in London last week; and the occurrences at that meeting, served to corroborate the justice of the views, expressed by the Cambridgeshire farmers. Only two or three, out of the scores of noble and parliamentary patrons of the association, condescended to attend the meeting;—and not one of them condescended to attend the anniversary dinner of the farmers which followed!

In the course of the evening, a feeling of deep indignation was expressed by the farmers assembled, at this desertion of the interests of agriculture, by the class of men, who possess, above all others, a deep interest in its prosperity. Mr. Bernard, a landowner—but one who happens to be enlightened enough to perceive that the interests of the landlords ought to be subordinate to the interests of farmers, and labourers—stated, in corro-

boration of the sentiments expressed by many of the farmers—“that the Central Association had failed, solely because landlords had been permitted to belong to it. Landlords, as a body, cared for nothing, but the receipt of their rents; and, although protection to agriculture had been recognised as the fundamental principle of the association, he had never met with a landlord, belonging to it, who was not opposed to the principle of protecting, either labourers, or farmers.”

To remove all doubt, on the subject—to prove, beyond the possibility of misconception—that the cause of the farmers has been abandoned by the landlords, a new society, styling itself “*The New Agricultural Society*” has been announced, as being in process of formation. This new society boasts of many most distinguished names, as its patrons and “governors.” Not one word is stated in its prospectus, on the subject of “protection” to agriculture! Oh, no! so far from anything so vulgar, as “protection” for the British farmer being contemplated, one of the fundamental laws of the society is to be “*that no question shall be discussed at any of the meetings, which shall refer to any matter to be brought forward, or pending in either of the houses of parliament.*”

The plain English of this “fundamental law,” is, that the farmers of England must quietly pay their rents, without presuming to trouble the class of rent-receivers, with the story of their difficulties and their sufferings! The Currency Bill of 1819 may work out its deadly ends! The corn laws may be repealed! The whole body of the productive classes may sink in hopeless subjection to the jobbers and idle consumers! Still, the landlords of England must not, in any case, be called upon to take any trouble in the matter! If one race of farmers shall be swept away into the vortex of bankruptcy,—why, the landlords, of course, hope to find another race of tenants, who will sacrifice their capitals, so long as their capitals shall last—and who will, then, quietly, walk into the nearest workhouses! But, although, the patrons and governors of the new society will not recognise the principle of “protection” to the farmer, they are not unwilling to “encourage” him! They will stimulate him to lose money in feeding prize cattle:—and if the march of political economy should, ultimately, reduce him to beggary—still they will not be found unwilling to smooth his way to the work house, by bestowing on him, occasionally, during his progress, a medal, or some other honorary mark of their approval of his acquiescence in a system, that forbids all allusion on the part of farmers to political measures—although these measures may be destroying a farmer's capital, and depriving him of bread!

The farmers, in short, are, at length, fairly abandoned by the landlords! But let the farmers rest assured, that they are strong enough to secure “protection” for themselves, if they will only, manfully, and energetically, use the means at their disposal. Let the farmers in each county form themselves forthwith into a local association, after the fashion of the Cambridgeshire farmers! Let these local associations, again, arrange themselves into one great central association! Let them communicate with each other, in every possible way! Let them resolutely, refuse admission to landlords, or the agents of landlords! Let them trust to themselves alone;—and within a very short space, they will find themselves able to command all the “protection,” to which agriculture is entitled! There is no time, however, to be lost! The enemies of English agriculture—the deadly foes of native industry—are never idle!

Pears grafted on Medlar Stocks, are found by Capt. Peter Rainer, R. N., to become more juicy, and not inferior in flavour; They grow vigorously, fruit the second year, and bear abundantly. Some are much altered in appearance; the Jargonelle remains nearly green when ripe, and is a much shorter fruit than when produced from a Pear or Quince stock.

THE AGRICULTURAL SOCIETIES AND THE MORNING HERALD.

The *Morning Herald* of Thursday last wasted one of the most vulgar, virulent, and silly leading articles, against the two societies lately established for the scientific improvement of agriculture, which ever degraded the most senile and ignorant member of the metropolitan press. It would require no conjuror in agricultural matters to divine, that the soft Simon who wrote such an article, knew as little about the interests of the farmer and grazier, as we pretend to know about the politics of Java or Japan; and still less does it require any acuteness in men of the world, above all, in men who know the tricks of the press, to discover that the substance of the egregious article to which we allude, was furnished by some disappointed functionary of that dying society to which we adverted last week. We could find it our hearts to pity the man whose heart could be so broken, and whose hopes could be so blasted by the failure of a scheme which has degenerated into nothing more than a miserable job; but our indignation smothered our compassion, when we find a servile stipendiary turning traitor to a cause, merely because it had been badly and clumsily managed in his hands.

The *Morning Herald*, or rather the writer of the article for the *Morning Herald*, first adverts to the facts, which we commented upon last week, that the nobility and landed gentry shrunk from attending the meeting of the "Central Society," on the 20th ult., at the Crown and Anchor, and that at the anniversary dinner in the evening, not one of that class—at least, not one gentleman recognised as properly belonging to that class, condescended to be present. From these facts the sapient, or we should rather say, irritated writer denounces the whole aristocracy of England, as a selfish and designing clique, who care nothing for the agriculturist, except as a payer of rent, and who would allow their tenants to sink or swim as accident happened, if it were not that the tenants' industry, labour, and capital, furnished them with the luxuries and conveniences of life. This senseless charge is brought against the landed proprietors of England, because they do not appear to think that the "Central Society" is worthy of their patronage, either as regards its management, its means or its objects. We will not stop to inquire what the Society has done for agriculture, or what it is likely to do, after having discreditably embarrassed itself in doing nothing. The plain truth is, that nearly every respectable name originally connected with it is merely kept on the face of its proceedings and prospectuses by the effrontery of its officials; that the president and nearly all the vice-presidents abstain from its anniversary meetings without even the ceremonial of an excuse; and that at no time did the patrician gentry of the country who have signalised themselves by an ardent love and liberal patronage of scientific agriculture, ever allow themselves to be mixed up, even nominally with the society;—this plain truth, we say, would be quite sufficient for us, as justification of our judgment that the society never was adapted to achieve the objects which it professed to pursue, even though the correspondent of the *Morning Herald* had not enlightened us as to the ignorance and selfishness of the underlings who concocted it.

In speaking of the chequered fate of the Central Society, the *Morning Herald* informs us, that the farmers of Cambridgeshire withdrew from it nearly twelve months ago, on the ground that no agricultural society would do good to the tenant, in which landlords had a voice. The *Morning Herald* tells us, moreover, that the Cambridgeshire farmers are the most intelligent in England, and recommends that the farmers should form societies, of which the fundamental principle shall be to exclude every man who is the owner of land. Now, farmers of England, just hear this. The *Morning Herald* is the most Conservative, or Tory, paper published in London; and yet, while the editor is taking his nap, such malevolent drivelling as the above finds its way into his paper! Do you know how? You do

not. We will tell you another day, if further provoked by such ill-directed nonsense.

The "Central School of Horticulture and Agriculture," which is established under the patronage of the Queen, and upwards of two hundred of our wealthiest aristocracy, merely incur a sneer from the *Herald*, and is then passed over as a rather delicate point to attack. The "brunt of the assault" is upon Earl Spencer's projected association, which is to be called, in imitation of the name, as of the Highland Society, the English Agricultural Society. Against the groundwork of this society, or, for we had better come to close quarters, and use straightforward language the Central Society's officers protest. That groundwork is "that no question shall be discussed at any of the meetings which shall refer to be brought forward, or pending, in either House of Parliament." We have more than once or twice declared our opinion that this is the proper way to go to work with a society for the scientific advancement of agriculture, yet still insisting that another society for the legislative protection of agriculture to be not only useful but necessary. The "Central Society," to which this article may be supposed a "requiescat in pace," for want of worldly and agricultural knowledge, never understood this prudential distinction from its commencement. Hence its want of support both in talent, influence, and subscriptions. Earl Spencer's "English Agricultural Society," and the "Central School of Horticulture and Agriculture," will fare differently, because they are founded on a better basis, and a more disinterested principle. The "Central School" has already established for itself a place amongst the most useful of our metropolitan societies; and the "English Society," we are happy to say, has, though its preliminary meeting to make arrangements does not come on until the 9th of May, received subscriptions to the amount of two thousand pounds!—*New Farmer's Journal*.

THE WAX TREE.—This tree grows perfectly well in France, although, as yet, the French agriculturists have not attempted to turn it to any use. It is a hardy plant, and loves a sandy dry soil, such as few other trees can flourish in. Its usual height is about five or six feet, and little care is required for its cultivation. It bears every season an abundant crop of berries, which can be easily gathered in. Almost every method of propagation yet discovered is available for multiplying this production, but the most expeditious mode is to plant separately the suckers, which grow in vast numbers at the foot of each plant. A delicious odour emanates from the leaves and berries; and the wax or resin proceeding from these latter, spreads around the same perfume when burning; so that a single taper is sufficient to perfume a good-sized room, even for some time after it has been extinguished. We are decidedly of opinion that the climate of England would be perfectly suitable for the cultivation of this plant, and we are equally convinced that it would confer a great value on lands now comparatively unproductive. It grows with great luxuriance within a league of Berlin, in the garden of M. Subzer, and bears both flowers and berries. Why should not the same result be witnessed in England?—In America, 7lbs. of berries give about 2lbs. of wax. This matter is of a yellowish green; a little firmer than the wax made by bees; when burnt it gives a bright clear light without smoke. It is not subject to run like tallow, and, when new, it possesses a balsamic odour, which the inhabitants of Louisiana declare to be extremely wholesome.—The process of extracting the wax is to throw the berries into a cauldron, and to pour water on them, until it is five or six inches above the quantity which is to be worked on by boiling; the water is heated, and whilst the fire acts on it, the berries are stirred about in the vessel, and at last broken to pieces against the bottom and sides, in order to facilitate the separation of the wax, which by degrees collects on the surface of the boiling water. The oily substance is skimmed off, and strained through

a linen cloth, in order to free it from all gross or extraneous matter. When all the wax that the berries will furnish has been carefully collected, they are removed, and a fresh supply to be subjected to the same process as the others. A quantity of water is added, to supply the place of that lost by evaporation, and the vessel is regularly cleaned out after the wax has been collected from the second batch of berries. The wax thus obtained is moist and soft. It is afterwards dried in cakes, and may at any time be made into candles. This wax does not serve alone for giving light, it makes a peculiarly fine soap, and its astringent qualities render it useful in medicine. This shrub is found in the greatest numbers in North and South Carolina, where it is distinguished by the hardihood of its nature. We earnestly recommend its introduction into this country, and we hope our recommendation will not be lost on our agricultural and horticultural readers.—*From the Gardener's Magazine.*

THE TITHE COMMUTATION ACT.

Moulton, April 4.

At a parochial meeting held in the parish of Weston, certain land proprietors inconsiderately agreed to give an extravagant rent-charge, at the same time laughing and telling the minority they could do without them, and at a subsequent meeting appointing the tithe-owner's agent as a valuer, fixing the principle of the appointment so as to encrease the value of their estates, and decreasing the value of the estates of the minority, has led to the sending of the following remonstrance. Seeing in your valuable agricultural paper your wish that some person would throw some light on the working of the Tithe Act, I hope the publishing of this will induce some persons to come forward for that purpose.

Yours, &c.,

PRO BONO PUBLICO.

"TO THE HONOURABLE COMMISSIONERS OF THE TITHE COMMUTATION ACT.

Weston, Jan. 29, 1838.

"GENTLEMEN,—We, the undersigned parishioners and landowners, in the parish of Weston, in the county of Lincoln, most humbly offer to your notice and consideration the several objections we have to the agreement recently made at a vestry relative to the commutation of tithes in the aforesaid parish, on the following grounds:—

"That it is our firm opinion and belief that the Legislature never contemplated at the passing of the Tithe Act, an unequitable and unfair distinction of property, as to benefit the one class of landowners at the cost and injury of the others.

"On these grounds we venture to offer our remarks, viz.—That we are decidedly of opinion that the proposed sum agreed on at the said vestry, is much too high, as the average receipts of the value of the tithes for the seven years does not justify such a rent-charge.

"That the principle on which the Weston tithe agreement is made, clearly appears to benefit only the proprietors of grass lands, which when brought into cultivation as arable, would greatly out-balance in point of value and produce, the old worked-out lands.

"That the above measure if carried into a law would be most oppressive and unjust, as it will settle a very heavy tithe on the old worked-out arable lands, (which are not a few,) thereby considerably influence either the sale or letting of such property, to the great detriment of the respective owners.

"Such being the case, we most humbly rely on your kind attention to these our remarks, and trust your impartial and considerate view of the subject will afford us a permanent relief.—And in duty bound, your Petitioners will ever pray."

IMPROVEMENTS IN IRELAND.

TO JOSEPH POLLOCK, ESQ.

SIR,—In answer to your letter of the 17th instant, I give my willing assent to the greater part of the arguments fairly and quietly stated therein. I should very much lament the defeat of the Ministerial Poor-law bill for Ireland; but I should greatly rejoice to see it accompanied by other bills increasing employment, and encouraging the outlay of capital on public and private works of such importance and necessity as would secure repayment for the outlay.

I shall endeavour as briefly as possible to state my opinion as to the facilitating and extending improvement by labour, whereby the compulsory and most offensive parts of the poor law bill would be greatly alleviated.

It has been said that it would take two hundred millions to put Ireland on a footing with England as to farm offices and homesteads. I doubt if it would take half so much; but I am certain we lose as much by vermin, by rot, and by waste as we pay to the parsons. I am, moreover, certain that on every principle of economy the outlay on all necessary farm-offices would repay itself in a very few years. Indeed I know, from my own experience, that tenants willingly pay ten per cent. on the cost of such accommodation. I give at foot an idea of a law to facilitate such improvement—a second law for draining, inclosing, and improving wastes. These laws would set forward employment simultaneously in all quarters—would not congregate too large masses of labourers—would make tenants for life to improve the estate, and to make from it a provision for younger children—would secure to capitalists a safe and profitable market, and would greatly increase the quantity, quality, and safety of the produce. So far for the employment of private capital on private property. The people in England may ask, "What necessity for a law for such purpose?" I answer, because the great mass of Irish proprietors are either absent, in debt, under settlement, indifferent, or ridden by middlemen and agents.

Now, as to public works in Ireland, they would be as beneficial and as remunerative to England as to this country, and they are in justice due to us. The intercourse between the Old and the New World requires a railroad to Tarbert or Berehaven, perhaps another to Blacksod. A proper improvement of the Shannon would pay 200 per cent.; a ship canal to Galway would have saved almost every wreck of this winter, except that of the poor Killarney. It would reclaim the entire Bog of Allen, and give food and location to a million of persons. These, Sir, are my opinions as to some of our resources; these I would urge without opposing the poor law. Indeed, they are much in accordance with the more extended and admirable views of the poor law commissioners, amongst whom I reckon some of the best and ablest men, English and Irish, with whom I have ever had the honour to be acquainted.

I remain, Sir, your faithful and obliged servant,
CLONCURRY.

Lyons, March 21.

BILL No. 1.

"Whereas great loss of produce and of stock is caused to the farmers and landholders in Ireland by want of proper homesteads, barns, granaries, and other necessary offices for farm purposes, and the want of capital, of confidence, and other causes prevent the landlords or the tenants from erecting the same; be it enacted, that on application of any landlord, or of any tenant, in Ireland, holding fifty acres of land or upwards, it may be lawful for the board of _____ in Ireland to issue orders to the surveyor of the county to view the said farm, and to report to the board what offices or homesteads may be necessary on the said farm for its due cultivation, and the saving and preserving its produce; and if the owner and the occupier of said farm, or either of them, will agree to pay the said board a yearly acreable instalment not exceeding ten per cent. on the reserved rent, the said board of _____ in Ireland may direct the erection of the same, and issue debentures for payment thereof, which debentures shall bear

interest at the rate of four per cent. per annum, and of six per cent. for a sinking fund, and shall be a first charge on the said land, until the said debentures be paid off.

"And be it enacted that when there are derivative interests leases of land so requiring homesteads and improvements, it may be lawful for said board to apportion the costs of such improvements."

BILL No. II.

"Whereas much land in Ireland, of various descriptions, lies neglected or waste by reason of want of title, of division, of inclosure, and of drainage, as also of want of capital, or of due attention of the proprietors and holders; be it enacted that it may be lawful that any proprietor or holder of land, not less than one hundred acres, may lay before the board of in Ireland a map and statement of the land which requires to be drained, and the said board shall issue directions to the county surveyor to inspect and report on the same, and on the works and outlay necessary for drainage of the same; and if the said board approve thereof, it shall be lawful to order the execution thereof, and to issue debentures for the expense thereof, which debentures shall be a first charge on the land at a rate of ten per cent., of which four per cent. for interest on the debentures, and six per cent. as a sinking fund. And in case the land, bog, mountain, or waste shall exceed one hundred acres in extent, and its bounds have been marked out by the ordnance survey lately made, then it shall be lawful for the said board of in Ireland to appoint commissioners of view of the county where the said waste lands are situated, who, with the aid of the county surveyor and others, shall decide on the propriety and expense of draining, inclosing, and improving the same; and the said board shall order the said works and improvements to be carried on, and shall sell or let a portion of the said lands to pay the necessary cost and outlay of such inclosure, drainage, and improvement, giving the residue to the proprietors. Provided always, that if the proprietor or proprietors desire to improve the said lands by themselves and by their own labourers, it may then be lawful for the said board to authorise the same, and to issue debentures for said purpose with interest and sinking fund, as if the said waste, bog, or mountain, did not exceed in quantity one hundred acres."

IMPORTANT TO SOWERS OF LINT-SEED.

General observations on sowing lintseed, showing the good and bad qualities:—

Good.—The grain should be of an oval, tapered at the one end, and turned a little at the point, plump and smooth, but not round; the colour should be light brown and greenish at the point. It should taste sweet and glutinous in the mouth, and appear whitish when chewed; if it has any smell, it should be that of fresh eating oil. It should feel very slippery, and difficult to catch with the hand. It should crackle and blaze when thrown into the fire, and should sink when wet and thrown in water. Lastly, it should have as few of the faults described below as possible.

Bad.—The lintseed which comes under this description is sometimes round, not oval, flat, thin in the edges, and the point straight, (not curved to one side). The colour is very unevenly, some of it dark brown, some of it light, some pale, some nearly black, others whitish, and some very green without substance the taste rather bitter and not glutinous: in proportion to its age, the smell will be damp, rancid, and mitey. It burns only a little in the fire, and does not crackle much; in the hand it feels either very chaffy or very hard. It has other seeds mixed with it, such as hay seed, yellow seed, black seed, and sand, and sometimes corn and broken clay. Lastly, good lintseed is often among the bad, but several of these marks will always appear in bad lintseed.—*Kilmarnock Journal*.

[26 March 1838.—I VICT.]

A BILL

TO ADMIT FOREIGN CORN TO BE GROUND IN MILLS UNDER THE LOCK OF THE CROWN, AND MANUFACTURED THEREIN FOR EXPORTATION ONLY.

[Note.—The words printed in *italics* are proposed to be inserted in the committee.]

Preamble.—Commissioners of Customs, with sanction of the Treasury, may approve of premises for grinding foreign corn for exportation.

Whereas it is expedient to admit foreign warehoused corn to be ground and manufactured for exportation under the lock of the crown; be it therefore enacted, by the Queen's most Excellent Majesty, by and with the advice and consent of the lords spiritual and temporal, and commons, in this present parliament assembled, and by the authority of the same, that upon the application to the commissioners of Her Majesty's Customs of any persons actually occupying premises fit for the purposes hereinafter mentioned in or near the ports of London, Liverpool, Bristol, Hull, Dartmouth, Plymouth, Greenock, Glasgow, Dublin, Cork, Waterford, Newcastle and Belfast, or any other port, to be approved of by any three of the commissioners of Her Majesty's Treasury it shall be lawful for the commissioners of Her Majesty's Customs by their order to approve of such premises as bonded mills for the grinding of corn, and also as bonded bake-houses for the making of biscuit, as the case may be, for exportation only, on its being made appear to the satisfaction of the said commissioners that the said premises are fit in every respect for receiving such corn, and wherein the same may be safely deposited for such purposes.

Commissioners of Customs may deliver foreign corn to be ground on such approved premises without payment of duty.

And be it enacted, That on the approval of any premises as bonded mills and warehouses as aforesaid, it shall be lawful for the officers of the Customs at the ports respectively where such premises are situated, to deliver from the warehouse, without payment of duty to the party or parties so applying as aforesaid, on entry with the proper officer of the customs, any quantity of foreign corn for the purpose of being there ground into flour, and also manufactured into biscuits, as the case may be, under the locks of the crown for exportation only, and that the corn so delivered shall be removed to and from and be lodged and secured in such premises, under such conditions, regulations, and restrictions as the said commissioners shall from time to time direct: provided always, that it shall be lawful for the said commissioners by their order to revoke or alter any former order of approval of any such premises.

Owner and occupier of premises where corn is ground to give bond.

And be it enacted, That upon entry of corn to be ground on any premises approved of under the authority of this act, the person on whose premises the same is to be ground, shall give bond to the satisfaction of the officers of the Customs in the penalty five pounds for each quarter of corn to be ground, with a condition that the whole of such corn shall be actually ground on the said premises, and that within two months from the date of such bond, the whole of the produce of such corn shall be either exported from the said premises, or delivered into an improved bonded warehouse under the locks of the crown, for the purpose of being eventually exported to foreign parts.

For defraying expense of officers of Customs employed for security of revenue.

And be it enacted, That the expense of the officers of customs employed for the security of the revenue in such

premises, shall be defrayed by the parties occupying such premises.

Corn removed without due entry, to be forfeited.

And be it enacted, That all such corn, or the produce of such corn, removed from such premises without due entry, shall be forfeited, and may be seized by any officer of Customs; and all persons concerned in such removal, or harbouring any corn, or the produce of such corn so removed, shall forfeit *treble* the value of the same; and such forfeitures, and penalties shall be recovered and dealt with in all respects as forfeitures, penalties and seizures inflicted by any law relating to the Customs are recovered and dealt with.

Act may be altered.

And be it enacted, That this act may be amended or repealed by any act to be passed during the present session of parliament.

DURHAM AGRICULTURAL SOCIETY.

The Meeting of this Society for the Exhibition of Stock took place, in Mr. Gregson's field, adjoining the County Courts, in this city, on Friday, March 29. The Judges were Mr. Leonard Severs, of Oliver, near Richmond; Mr. Thomas, of Low Hayle, near Hurworth; and John Hawdon, Esq., of Wackerfield, near Raby; who, after inspecting the Stock exhibited, made their awards as follows:—

SHORT HORNS.

For the best bull, under 4 years old (seven entered), to H. J. Spearman, Esq., of Newton Hall, for his bull, Newton, rising 3.

For the best bull, under 2 years old (ten entered), to Mr. Wetherell, of Durham, for The Baron, calved March 26th, 1837.

For the best cow in calf, or giving milk (ten entered), to Mr. John Wood, of Kimblesworth.

For the best two-years old heifer (seven entered), to Mr. Crofton, of Holywell.

For the best yearling heifer (four entered), to Mr. Wetherell, of Durham.

SHEEP.

For the best shearing tup, (no competition) to Mr. Wood, of Croft.

For the best tup lamb, (no competition) to Mr. Wood, of Croft.

For the best pen of 5 Gimmer hogs (four entered), to Mr. Sopwith, of Burn Hall.

PIGS.

For the best boar, (no competition) to Mr. Wood, of Kimblesworth.

For the best sow (seven entered), to Mr. Wm. Arrowsmith, of Sherburn House.

HORSES.

For the best thorough-bred stallion (six entered), to Mr. Geo. Smith, of Greatham, for his horse, Wizard.

For the best Cleveland stallion (five entered), to Mr. Joseph Worthy, of Darlington, for his horse, Drover.

For the best cart or dray stallion (three entered), to Mr. Christopher Wilkinson, of Little Chilton, for his horse, Great Chilton.

For the best mare for breeding hunters (four entered), to Mr. Newby, of Pitlington Hallgarth. [A two-year old colt foal, the produce of this mare, was sold at the Fair, to Mr. Maw, for 85 guineas.]

For the best mare for breeding carriage horses (three entered), to Mr. Wearmouth, of Houghall.

For the best mare for breeding draught horses (four entered), to Mr. Chr. Wilkinson, of Stanley.

The celebrity and interest of this meeting, as might be expected, attracted a great number of gentlemen and breeders from every part of the county, and many from

considerable distances, who were highly gratified by the splendid display of short horns which was exhibited on the ground. Mr. Spearman's bull was universally admired. He is a beautiful animal, of fine symmetry and good quality; and we understand a gentleman would have given a high price for him had his owner been disposed to part with him. The show of yearling bulls, for number and quality, was admitted to be the best that had taken place since the establishment of the society. One of these, belonging to Mr. Newby, was sold after the show for 75 guineas. The cows and heifers, of all classes, were not only numerous but of first-rate quality. The show of blood horses (principally greys) was also very good. Too much praise cannot be bestowed upon the careful discrimination evinced by the Judges, whose decisions appeared to give satisfaction to all parties. In awarding the premiums for the horses, they were assisted by Mr. Thomas Robinson, of Hutton Hall, near Greta Bridge, and James Fawcett, Esq., of Scaleby Castle, near Carlisle.

After the show, a large party of the members and friends of the Society dined together at the Waterloo Hotel, Mr. Spearman, the President of the Society, in the chair, supported by R. E. D. Shafto, Esq., of Whitworth; John Fawcett, Esq., of Durham; H. Morton, Esq., of Lambton; W. T. Greenwell, Esq., of Ford; J. Gregson, Esq., of Durham, &c., &c. Geo. Ridley, Esq., of Arbour House, officiated as Vice. The healths of the successful competitors, the judges, the Chairman, and other suitable toasts, were drunk; and, in the course of the evening, several excellent speeches on topics connected with agriculture, the breeding of short-horns, the mowing of wheat, premiums to labourers, &c., were delivered by the Chairman and other gentlemen. It was stated that several additional members had already enrolled themselves, and that others were expected to follow their example. The name of Lord Durham was included amongst the former. Increased energy will thus be imparted to the proceedings of the Society, and its operations in future years will, it is confidently anticipated, have a material and beneficial influence on the interests of agriculture in the county. In reference to the show of stock, at this meeting, Mr. Wetherell stated that he had attended similar ones in Northamptonshire, Lincolnshire, Nottinghamshire, Yorkshire, Cumberland, Northumberland, and other counties in England, as well as Scotland, and also the exhibitions of the Highland Society for five years, and had never witnessed so fine a display of short-horns on any other occasion.

BEETROOT.—This delicious vegetable is very little known, excepting as a garnish, and to give a colour to pickled cabbage, and then only in a raw state: it ought to be admitted to every table; for a more wholesome, nutritious, and delicate esculent is not to be found. It is thus managed:—Let it be washed and brushed, not scraped, as a carrot is prepared. The head—that is, the short stalks which have borne the leaves—also the small end and side rootlets, are all to be left on during the time of boiling, care being taken not to wound the skin till it is done, because the fine rich colour will escape and leave the root pale and unsightly. The time they take to boil will depend on the size; from three-quarters of an hour to an hour and a half. When it is ready, let it be peeled and trimmed, and sent to table. All that may remain after dinner should be cut into slices about a quarter of an inch in thickness, these are to be laid neatly in vegetable dishes; and vinegar is to be poured over the whole. By the next day at dinner-time, or even the same night it will be ready; and if eaten either at supper alone, with pepper, salt, oil, and vinegar, or as an adjunct to cold, or even hot meat, it will be found an admirable addition to both meals. It becomes a very mild kind of pickle; and is exceedingly salutary, if eaten with salted meat. In this state it will keep for a fortnight. This garden beetroot is not the same from which sugar is made, that is the white beet; it grows, and much resembles, in appearance, mangel wurzel.

ON SPADE CULTIVATION.

TO THE EDITOR OF THE NORWICH MERCURY.

Redenhall, March 20th, 1838.

SIR,—Observing my name as rather conspicuous in your publication of last week, copied from a pamphlet published by Dr. Yelloly, of Woodton Hall, in this county on spade cultivation, I feel it an imperative duty publicly to thank the worthy Dr. for the generous opinion he has evinced towards me, at the same time beg your acceptance of my hearty gratitude for the open and manly way in which you so ably commented upon the system, as I contend that every experiment ought to bear the most minute scrutiny, being perfectly convinced that nothing beneficial can arise from those experimentalists who perform their operations by halves, and assuredly if ever there were a period when agriculture summoned its advocates, this is an era of the greatest excitement, more particularly when we can scarcely peruse a newspaper or periodical but we see in it “that agriculture is in its infancy,” and although the learned Dr. has so liberally depicted my character as able, experienced, &c. &c. to which I cannot respond, but must concur with Earl Spencer, that agriculture is inevitably in a very youthful state. Having now your paper before me, I beg to notice your first observation, that the details are deficient, and what are the differences in the expenses and the products; as without this the example will not extend.” As you sir, rather wish for a little detail on spade cultivation, I beg your reference to Mr. Scott's experiments which are as follow, and may be found in a pamphlet published by a landed proprietor in 1834; it is an able production, and entitled “A clue to the cause of dear bread and fallen rents.”

By trenched wht. pr. acre, 52 bus, at 6s. 9d.	£ 17 11 0
To two year's rent, at 2l. 10s.	
per annum	£5 0 0
Expense of trenching	4 10 0
Seed, 3 bushels, at 6s. 9d.	1 0 3
8 cart loads of manure, at 4s.	1 12 0
Expenses of cutting, thrashing,	
and marketing	1 10 0
Profit with the exception of 9d.	3 18 0
	17 11 0
	17 11 0

By ploughed wht. pr. acre, 48 bus, at 6s. 9d.	£ 14 3 6
To two year's rent, at 2l. 10s.	
per acre	£5 0 0
6 furrows and harrowing at 10s.	3 0 0
Seed, 3 bushels, at 6s. 9d.	1 0 3
16 cart loads of manure, at 4s.	3 4 0
Expenses of cutting, thrashing,	
and marketing	1 10 0
Profit	0 9 3
	14 3 6
	14 3 6

Now Mr. Editor, from the above rent of 50s. per acre, the land cannot be poor, but very rich, which you say is more favourable for the operation of the plough. Mr. Scott's words are so truly applicable to myself, that I shall quote them. “When I first commenced, I was laughed at by my neighbours, but now, when they see me persevering in what they considered a very chimerical project, they are suspending their judgment; and several of them have made considerable experiments this year.—I am not so enthusiastic as to imagine that myself or any person who may choose to disturb the under-stratum, justified in so doing on every soil, for instance—you say “ask the rich-land proprietor of the Flegg and Blofield Hundreds, and he will wager with you that a greater product cannot be obtained by the spade than the plough.” Now, sir I really do not envy my brother farmers, their agreeable birthright, tilling the lands of their ancestors; all I wish them on their rich occupations is great prosperity, which is due to them as spirited farmers, but these fertile

spots are not so easily obtained in the hundred where I reside, or very probably I should never have had recourse to that ancient implement the spade, and really on reflection it is surprising, that in this age for improvements, no instrument yet introduced can effect on clay soils what that or the fork does. We see and hear of the adhesive lands being subsoiled, viz. one plough following another in the same track, but unfortunately on stiff soils, this subsoil plough effects the sought for advantage, but here comes the farmer's greatest pride a charmingly-well fattened cart horse, with the addition of draught say not less than 120 stones of 14 lbs. walking on the very under-stratum which has been so carefully and expensively loosened by it, consequently destroying that which was intended as a benefit, and at a cost of both ploughings of not less than about 18s. or 20s. per acre, whilst by the application of the fork all the earth is thrown from the operator, and becomes porous from having the soil more divided, and subsequently admitting the atmosphere to have its full advantages developed, which I conceive no implement can so well effect, viz., natural tillage, without which on stiff soils the most rigorous attempts are fraught with uncertainty, and the great secret of farming stiff adhesive soils is to bring them to that state which approaches more nearly to mixed soil lands. Ere this, I hoped to have tilled my land by steam, from a letter which I received some time since from that able and enterprising Member of Parliament, H. Handley, Esq. who prompted me to have an idea that a steam plough might operate in an enclosed country, but which I am now led to understand is impracticable, although hopes are entertained that it may be effective in open districts. Let it be remembered every outlay in tillage, *however large*, if it meets with remuneration cannot be disadvantageous, and doubtless the time is near at hand when good landlords will stand in need of good tenants, and bad landlords who get as much rent as possible, regardless of the injury which bad tenants so frequently entail upon the land who will take a farm worth 35l. per acre, and leave it worth 25l., when the good tenant by liberal employment of capital, will bring an additional value equivalent to the depreciation. I intend entering more widely on the subject, but am aware your valuable Journal requires space for more interesting matter.

I am, sir, your's obediently,
JOHN GEDNEY.

TO THE EDITOR OF THE NORWICH MERCURY.

SIR,—I have read Mr. Gedney's observations on spade or fork culture, and as far as regards its advantages over the common mode, I have no controversy with him. But in his details of income and expenditure, he appears to have been guilty of two errors. In the first place he calculates 48 bushels of wheat at 6s. 9d. per bushel as amounting to 14l. 3s. 6d. But here I suppose he intended 42 bushels, which, at 6s. 9d. per bushel, amounts to that sum. The second error I cannot so well account for—namely, as to expenditure, in the one he charges for eight loads of manure, and in the other sixteen loads. Now if any difference, I should suppose the quantities should have been reversed. For the principal objection which I have met with to spade culture from practical men is, that the uncultivated soil being placed on the top, more manure is required, which in many situations cannot be obtained, and where attainable the expense is considerably increased. But supposing the quantity of manure in both cases to be the same, namely, 16 loads per acre, the expenditure by spade culture is increased by the sum of 1l. 12s., leaving the profit per acre, instead of 3l. 18s., 2l. 6s. only.

But, Sir, I should not have intruded my observations, but for Mr. Gedney's sarcastic remarks regarding one plough following another. If he alludes to the plough invented by Sir Edward Stracey, of Rackheath, I think he is mistaken. I yesterday visited Mr. Felton, a re

spectable and intelligent farmer at Sprowston, whose lands about on Sir Edward Stracey's, where I saw this plough at work in a field preparing for mangel wurzel. A common plough precedes turning up four inches of soil in the usual way. This new invented plough follows in the same furrow, loosening in this case eight inches more, making a depth of soil altogether of twelve inches. The common plough in following this, one of the horses walks in the furrow of broken soil, as Mr. G. states. But it is to be observed that at each step the horse advances 30 inches, and treads, as near as I can calculate, about one-fifth of the soil. But in order to ascertain the effect, I took a small iron rod, and generally found 12 inches of loose soil, and in a few instances 10 inches, so that where the horse treads, which Mr. G. considers so detrimental to the plan, the depth of loose soil appears to be only two inches less; but supposing it were of the consequence which Mr. G. supposes, the plough might be easily altered so as to break the whole soil to the depth required by itself.

But, Sir, all reasoning must vanish when facts come in opposition. Sir Edward Stracey has himself experienced the beneficial effects of this plough; some land which he occupies was inclosed a few years since, on which he grew very moderate crops; by the operation of this plough his produce has in some instances been doubled, in others increased by one-third, in all greatly improved. I wish both Mr. G. and his friend Dr. Yelloly may take an opportunity of having ocular demonstration of its advantages. The great superiority of Sir Edward's plough over spade culture consists, first, in the diminution of expense, ten acres being accomplished in a week; and secondly, that whilst the soil is loosened to the depth of 12 or 14 inches, the cultivated soil raised by the first plough remains undisturbed.

I am, Sir, yours,

A FRIEND TO IMPROVEMENT.

ON THE CULTIVATION AND USE OF MANGEL WURZEL.

Writtle, March 24.

SIR,—In your last publication I intimated an intention of adding a further statement respecting the culture of mangel wurzel, which I now hand for your insertion. The great objection taken by some cultivators to it is, that it is not adapted for use with every kind of stock, and especially with young animals; and to those not acquainted with its application, perhaps it will be best to describe the effects produced upon them.

If bullocks are stalled and fed at once with it, without abundance of dry food, it will produce scouring; to remedy this a small quantity of bean or barley meal, or both mixed should be added, with plenty of cut chaff, from oat straw, (if it can be obtained), and about one-third part hay. I am thus explicit as it is a received opinion with many graziers, that the straw cut into chaff with the hay, answers better proportionably, than if all hay was used. Some of the bullocks will probably be seized with apparent paralysis, when so, their heads will be thrown forward; the necks and limbs stiff, and the animals unable to walk unless with considerable difficulty,—if the symptoms are violent, bleeding and 1lb. to 1½lb. of salts, should be given to each, but in most cases they will recover in forty-eight hours, if the food is changed; but will refuse to eat the mangel wurzel freely afterwards, and consequently time will be lost in producing them at market, but all this may be prevented by proper care.

The mangel wurzel should be first given sparingly with other food, and the quantity gradually increased. It is found that if the bullocks are kept loose in yards and not stalled, especially upon first using it, that they thrive better and are not so liable to the attack.

If small pigs are allowed to eat it freely, they become feverish and stunted, and if sows in farrow are entirely fed upon it, their young will be weakly, and probably few in number and die; but for pigs three months old and upwards it is excellent, especially if a full quantity

allowed; and with the addition of a small quantity of corn they may be easily and quickly fattened for the shambles; when used with other food, I find it also excellent for weaned calves, ewes and lambs, and for cows, and after using it thus for some time, I then entirely feed upon it, and have never known animals that have eaten it early, ever become affected afterwards; with cows, I find the milk plentiful, and they always appear in condition with their skins sleek and fine during the most severe weather.

If horses have been accustomed to it, they will eat it freely, and keep themselves in condition. An experienced agriculturist in this parish has kept all his working horses upon it, through the winter months without the addition of corn; but he concurs with me that it is not the most beneficial or profitable application of it. Still for horses turned loose into yards, or for colts it is of great utility in the proportions of about 56lb. per diem. When taken up for storing the leaves should be wrung off and not cut, and the quantity of earth that attaches is not injurious or material, as it readily comes off when the roots are taken from the clamp. A manufactory for sugar from the white beet was established in this district, but did not succeed as a speculation, a circumstance however, occurred that may explain in a degree why the roots are improved by keeping; it was found in the process of manufacturing, that the sugar could not be extracted after the spring months had commenced, and whilst the vegetative process was going on in the roots; but from that period the fattening property is increased, and continues to increase even up to the middle of the ensuing summer, and if stored in a cool situation and air and light be excluded, they may be easily kept throughout the succeeding winter. Another beneficial application may be made for fattening pigs by boiling it with a small quantity of meal of linseed, in the proportion of 1 quart to a cwt, or by further adding meal of corn, &c.

An endeavour has been made to secure plants by sowing in March and the beginning of April, but if the land is not ploughed in the spring, sufficient moisture will be retained to produce vegetation, and it will then be found that from the middle of April to the 10th of May is the best time to secure a plant; if sown early it is liable to be destroyed by frosts, and from them growing slowly, the attacks of the turnip fly, or wire worm are more likely to become destructive; in addition the very forward roots frequently run to seed and thereby exhaust themselves during the summer. The adaptation of the strong heavy lands of deep staple to its growth, has been attended with most important results to those districts, putting them almost upon a footing with the light turnip soils, as it can be frequently grown in such situations without manure, and succeeds well with only one ploughing. Advantage should be taken on soils on this description if dry weather, in which to cart it for storing if possible, for although it may not have arrived to maturity, it is not injured by pulling early in October; quantity may be lost, but the quality will not be impaired.

I have been requested to state more explicitly the expenses of cultivation which I readily offer. The ploughings at from 8 to 10 shillings each per acre. The manure, carting, and clamping, (for it should be partially rotted), and spreadings, 4s. each load, allowing one-third to the next crop; seed, 5s.; planting, 2s. 6d.; singling out, by women, 2s. 6d.; first hoeing, 4s. 6d.; second, do. 3s. 6d.; third, 3s., making with the seed 21s. per acre. Horse hoeing can be substituted with advantage, but not at less expence, if the time of the horses are charged in full; daily wages here are from to 12s. per week.

I am, Sir, your obedient servant,
ROBERT BAKER.

The quickest and most certain mode of raising the Mulberry tree is from cutting the old branches. Take a branch in the month of March 8 or 9 feet in length, plant it half its length in any good soil, and it will produce fruit the following spring.—*Gardener's Magazine.*

ON THE COMPARATIVE MERITS OF THE IMPROVED SHORT-HORN AND HEREFORD BREED OF CATTLE.

SIR,—It was not my intention to have again troubled you, having given an opinion, on the formation and working of local exhibitions for stock &c., thereby to offer a remedy for the evils complained of by "Mr. Knight on the over-feeding of cattle in Herefordshire," as also a reply to his remarks on the merits of their breed, he having said that "the late Mr. Jones, of Court Calmore, in Montgomeryshire, stated at their agricultural meeting in the autumn of 1835, that the young bulls which had latterly been obtained from the most celebrated stocks of Herefordshire, and brought into the county of Montgomery and the adjacent parts of Shropshire, were, with their offspring, incapable of thriving upon the same pastures upon which cattle of the Hereford breed had, within a very few years, thriven well."

My having noticed the above, appears to arouse the breeders of that county; who in defence of their *natives* have exerted every nerve, to eulogize their good properties and to condemn the "improved short horns," showing at once the difference of opinion that exists upon the qualities that animals possess; which for a national good, should be reduced to a standard, by placing the different breeds in competition upon fair and equal terms, thereby to draw a line of excellence, from the many; each animal possessing certain good points, must act as a correction to his neighbour; though it may not meet the views of your correspondent "Mr. Price," who condemns the plan by stating that I wish "a number of enormously fatted animals to be exhibited" "which never entered my thoughts, it being my opinion that all animals intended for breeding purposes, should be kept upon vegetable food only; as a proof I insert a passage contained in my last:—"I fully agree with Mr. Knight as to the ill effects of over-feeding those animals selected for breeding, feeling convinced that whenever practiced it must tend more or less to the injury of future improvement." Mr. P. having stated "that he deems the Smithfield Cattle Show constituted as it now is, a perfect delusion," I feel surprised that *one of his oxen*, to be exhibited by Mr. Senior, at the next anniversary, should be shown in the first class (as stated in his challenge) but being "nothing particular" conclude that Mr. P. has made suitable arrangements, to supply the "man cook, &c." or rather his *milk man*, "Mr. S. having an eye to profit as well as fame." Considering that the gentlemen Mr. P. has named to receive the oxen, would not attend them, I doubt whether he will meet with a breeder of "improved short horns" that would allow his steers to be placed at the disposal of a shepherd or "milk man" under whose care they might possibly "kick the bucket." We therefore turn to their respective merits when *classed* for competition; and having been directed to Mr. S. as the leading "legitimate grazer" I refer to his *selected* Hereford in No 2, as a *specimen* of the breed, which was certainly "an extraordinary production," if we give credit to his having been tutored upon the best land in England, and selected from the numerous herd of that gentleman, which have been, from time to time, collected from the *principal* breeders of Herefordshire, and placed as *their* representative for the largest premium offered by the Smithfield Club. As such, I enquire the established properties; considering that he was cast in the very mould of which Mr. Hillyard complained. We come next to the merits of his neighbour, an "improved short-horn," being alike, competing under the "legitimate" res-

trictions recommended by Mr. P., which "though last not least" in the estimation of the *public*, showing that be possessed those properties most essential to both breeder and feeder, as also appears by repeated opinions, given in the different journals, among which I refer (for our mutual information) to a letter signed "Bucolicus" in *Bell's Weekly Messenger* of the 12th. ult., the contents of which, if true, lead to an important discovery, not only in No. 2, but in Nos. 3 and 5, by stating "that the judges in awarding the premium of Class 2 have made a wrong decision, is obvious to all; and it may at the same time be noticed, that two or three judges had been visiting at the house of the successful candidate, not more than ten days before the exhibition took place; a circumstance not unlikely to create a suspicion that the fortunate animal was included in the gratifying reminiscences of their friend's hospitality, &c." With every good feeling towards the advancement of our united interests, I conclude my remarks by informing Mr. P., *my* ideas are founded on the following propensities: namely, symmetry, quality of flesh, early maturity, lightness of offals, and propensity to fatten, *all* of which I consider were combined in the (*gold medal*) "improved short-horn" heifer, sent from the Rutland Agricultural Society, as their representative, to compete, amidst "all other breeds," at the late exhibition of the Smithfield Club. Thanking you for past and present favours,

I remain, Sir, yours, &c.,

R. S.

Rutland, March 22.

RUTLAND AGRICULTURAL SOCIETY.—The Spring meeting of this society for the exhibition of male animals, took place on Monday, March 26, in that spacious building the Riding-house, Oakham, which had been previously arranged for the occasion. The judges, Mr. Bullock, of Manton, near Oakham, Mr. Clarke, of Bescaby, near Melton, and Mr. Pickering, of Beaumont Chase, near Uppingham, proceeded to make their award, and determined as under:—that the first prize of ten sovereigns, for the best stallion from any county, that will attend at Oakham and Uppingham once a week during the season of 1838, (under the usual restrictions), be adjudged to Mr. Goodwin, of Ayston, near Uppingham, for his horse "Briton," rising five years old, his sire, Mr. Smith's "Farmer's Profit," who took the prize at Oakham in 1832, his dam by that noted horse "Boxer" the property of Mr. Priestman, of Barleythorpe. The second prize of five sovereigns as above, was awarded to Mr. Musson, of Colsterworth, near Grantham, for his rising five years old brown horse, by Berridge's "Blaze." Mr. J. Hare's, (of Deeping Fen), chesnut horse, rising seven years old, was selected as the third and succeeding horse, should the above neglect the restrictions. The first prize of seven sovereigns, for the best bull (under the usual restrictions), was awarded to Mr. Baker, of Cottesmore, for his four years and ten months old bull "Roderick Random," by "Gainsborough," dam "Graceful." The second prize of three sovereigns (as above) was awarded to Mr. Baker's two years and one month old bull "Sultan," by "Sheridan," dam "Czar." The judges also commended Stafford O'Brien, Esq.'s young bull, as a promising animal, which was bred by Earl Spencer, by "William" dam by "Mercury," &c., &c. The prize of three sovereigns for the best boar (under the usual restrictions), was awarded to Mr. Draper, of Oakham, for his twelve months old hog. As a proof of the good arising from the repeated exhibitions of this society, we remind our readers that the *prize* animals of this meeting have been produced in the district, and from those animals that have in former years received the society's premiums, showing what may be done by "unity and perseverance," which we hope will ever be the motto of the members, who have so unflinchingly supported the cause of good breeding throughout its district.

AN ACCOUNT of the Imports of the principal Articles of Foreign and Colonial Agricultural produce, quantities entered for the Home Consumption, and of Duties received thereon in the year ended 5th January, 1838, compared with the same period of 1837.

Articles.	Measures and Weights.	Quantities Imported.		Quantities entered for Home Consumption.		Gross Amount of Duty received.	
		Years ended 5th January.		Years ended 5th January.		Years ended 5th January.	
		1837	1838	1837	1838	1837	1838
Wheat.....	Qrs.	168,647	455,828	19,554	232,993	£. 5,603	£. 303,179
Barley.....	..	83,483	87,802	110,021	47,476	41,001	21,267
Oats.....	..	131,056	415,721	97,184	333,930	41,670	167,580
Rye.....	..	6,626	30,710	18	19,574	10	8,483
Peas.....	..	78,299	111,289	80,928	87,614	28,990	40,865
Beans.....	..	93,055	106,448	87,795	109,002	31,525	45,990
Maize.....	..	1,778	4,025	1,519	762	129	359
Buckwheat.....	..	449	470	472	297	136	136
Bere or Bigg.....	..						
Malt.....	..	52	....	....	....	....	....
Linseed.....	..	417,402	414,188	398,972	424,347	20,020	21,266
Rapeseed.....	..	72,194	128,249	70,182	119,691	3,509	5,988
Flour.....	cwts.	255,831	361,980	36,937	40,186	3,279	3,680
Barleymeal.....	..		7	....	....	....	....
Oatmeal.....	..	644	3,865	21	142	6	41
Ryemeal.....	..	36	322	....	....	....	....
Indianmeal.....	..		528	....	3	....	....
Clover.....	..	95,449	103,314	78,754	124,967	78,562	124,652
Tallow.....	..	1,186,364	1,308,734	1,318,678	1,294,009	208,284	204,377
Rice.....	..	186,826	384,111	81,610	126,739	4,235	6,435
Butter.....	..	240,738	282,798	238,638	266,059	238,516	266,101
Cheese.....	..	211,169	237,729	203,106	232,255	106,224	121,660
Wool.....	lbs.	64,239,977	48,356,121	60,724,795	43,148,297	190,075	118,519
Eggs.....	Number	69,082,480	74,745,589	69,171,253	74,790,078	24,049	25,991

THE POPULATION OF GREAT BRITAIN NOT REDUNDANT.

FROM BURN'S LETTERS ON POPULATION.

In handling any subject of a practical nature, on which opinions are either unsettled or contradictory, it is necessary to advert to principles on which all are agreed; without this, no reasonable chance exists of ever reconciling differences, or, in truth, of advancing in actual knowledge. To till the earth for subsistence, may be fairly admitted as absolutely necessary to obtain it, with the few exceptions of those happier climes where the fruits and natural productions are so abundant, that men have only to pluck and eat them for the supply of all their natural wants. We have to do with even a happier country, where the industry of man creates, and may improve, an artificial paradise, less subject to revolution and change, but abundantly sufficient to return for labour all that can be needed for subsistence and every reasonable desire.

Till the earth and subdue it. Whenever this is done, increase of food follows as certainly as that the sun continues to rise, and give light and heat to the earth. Cease, at any period, and under any circumstances short of a diminished population, to till the earth, or any part of it, then so much in proportion, is, of necessity, to be subtracted from its produce. Such plain and self-evident propositions may be thought quite needless to be ushered forth in this manner; but it is on these plain and very evident propositions that the main questions that follow, securely rest. Many an apparently powerful and many fine spun argument has been found to crumble under its unnatural weight, for want of recurring to obvious first principles. Redundant po-

pulation, that is, population beyond supply, is a grievous evil. What can be more appalling and destructive of the happiness of any country, than the existence of hungry human beings, for whom subsistence cannot be found? It is of such tremendous magnitude, that no government, or legislature, or public body, or individual, can be more usefully employed than in the endeavour to remedy or qualify it. The very bonds of civilized society must be dissolved, if effectual and speedy relief be not found. There is not an instant to lose here, for no argument can stay a hungry stomach. Redundant population exists without sufficiency of food in, perhaps the finest country in the world. What can the starving poor do but leave it, if they have the option? What can the opulent, or government do, but with all practicable speed furnish the means of emigration to another land, where subsistence is to be found? But is the population redundant; and wherein does the redundancy of population consist? The assertion has been made certainly in parliament, and out of parliament, and evidence of a most voluminous nature has been brought forward to show the fact; yet does it not thereby follow that it is true.—No, not even on the evidence of several witnesses before the Select Committee of the House of Commons, stated in their Report on Emigration, and the unanimous feeling entertained by them as to the “enormous evils existing, and still greater to be anticipated from the unchecked progress of population.” And again, in another part, “that whatever complicated causes may have led to this state of things, the fact is undeniable, that generally speaking, there is an excess of labour as compared with any permanent demand for it, which has reduced and must keep down the labourer at the lowest possible amount of subsistence.”

Now of these facts there can be no possible doubt ; but that they solve the question of redundant population is by no means so clear. They are admitted to be labourers not tilling the earth, and the wonder is that the portion of which is tilled by others should yet furnish a modicum of food to them, the redundant consumers. A plain man of common sense might infer, that want of food, if anything on earth would do so, must check the increase of population. This has been the reasonable opinion of some very able writers ; and, " whatever complicated causes may have led to this state of things," it is fit that they should be removed with all possible despatch. One of these complicated causes, however, as adverted to in the said Report, is the removal by ejectment of an excess of tenantry from the estates of the land-owners in order to improve them, and that " process is constantly and extensively in force, checked only in some cases by motives of humanity, and the dread of immediate disturbance of the peace." That the peace should be endangered by the miserable beings thus dislodged from their abodes, who find themselves without resource or refuge, cannot, I think, be a matter of much surprise. A more certain and never-failing mode of insuring a redundant population cannot by any possibility be adopted ; displace labourers from the finest and most productive parts of England by a similar process, and to any considerable extent, and if redundant population do not ensue, *ipso facto*, and more rapidly than by procreation, there is no truth in the plainest deduction of reason and good sense.

Adverting again to the complicated causes of redundancy, that cause alone suffices to solve every difficulty. It is complicated, if this case can be so called, by numbers, not by intricacy. Applied to fifty redundant human beings, it is less complicated than applied to 500. But to 500,000 it must, indeed, in this way be so complicated as to require a much greater stretch of mind to embrace it. The question of redundancy remains, unfortunately, just where it was, as to any light afforded to it by the evidence hitherto advanced. Till the earth and subdue it, and then food is the result for those who otherwise cannot get it : and then, also, the produce, the work of man's labour, destroys the redundancy said to be now existing. It is rather singular that the evidence of redundancy should be the strongest, in the way the question has been too hastily taken up, not in the most populous, but in the least populous parts of the country. And does not this prove, in a great measure, that the assertion is ill founded ? That subsistence and population must go together in a healthy state of society is too clear to need any proof, and that subsistence should be increased with population is equally manifest. Thence follows the plain question, " Has the population of Ireland improved the lands of Ireland, so that a greater quantity of subsistence is not to be drawn from them ?" Has the population of England, Scotland, and Wales, done the same ? If not, which every man will admit, what becomes of redundancy ? It is not the fact then that the population of Ireland is redundant, because it is not the fact that Ireland is fully cultivated. It is not the fact that the population of England, Scotland, and Wales is redundant, because England, Scotland, and Wales are not fully cultivated.

Redundancy, in any acceptance of the word, cannot be fairly admitted, because it would apply to situations and circumstances which the advocates for emigration have never yet admitted. It would apply to very many periods of our history, when the population of the British Islands was not of half its present amount. It would apply, on precisely the

same grounds, of unemployed paupers burdensome consequently, on the other members of the community, and must have led, for the same reasons, to the same remedies now offered of emigration ; if, indeed any solid foundation for such an opinion ever had, or now has, any existence.

THE OLD WATER-MILL.

And is this the old mill-stream that ten years ago,
Was so fast in its current, so pure in its flow ;
Whose musical waters would ripple and shine
With the glory and dash of a miniature Rhine ?

Can this be its bed ? I remember it well
When it sparkled like silver through meadow and dell ;
When the pet-lamb reposed on its emerald side,
And the minnow and perch darted swift through its tide.

Where the miller, God bless him ! oft gave us " a dance,"
And led off the ball with his soul in his glance ;
Who forgetting grey hairs, was as loud in his mirth,
As the veriest youngsters that circled his hearth.

Blind Ralph was the only musician we had,
But his tunes—oh ! such tunes—would make any heart glad ;

" The Roast Beef of Old England," and " Green grows the Rushes,"

Woke our eyes' brightest beams, and our cheeks' warmest flushes.

No lustre resplendent its brilliancy shed,
But the wood-fire blazed high, and the board was well spread ;

Our seats were undamasked, our partners were rough,
Yet, yet we were happy, and that was enough !

And here was the mill where we idled away
Our holiday hours on a clear summer day ;
Where Roger, the miller's boy, lol'd on a sack,
And chorus'd his song to the merry click-clack.

But lo ! what rude sacrilege here hath been done !
The streamlet no longer purls on in the sun ;
Its course has been turn'd, and the desolate edge
Is now mournfully cover'd with duckweed and sedg.

The mill is in ruins ! No welcoming sound !
In the mastiff's quick bark, and the wheel's dashing round ;

The house, too, untenanted—left to decay—
And the miller, long dead ;—all I lov'd pass'd away !

This play-place of childhood was graved on my heart,
In rare Paradise colours, that now must depart ;
The water-mill's gone, the fair vision is fled,
And I weep o'er its wreck as I do for the dead.

ELIZA COOK.

PRODUCTIVE EWES.—Mr. E. P. Player, of Kenwyn, near Truro, has had this season from 13 ewes, being the whole of his stock, 11 doubles, one treble, and one single, which makes 13 doubles in the whole from 13 sheep. The 26 lambs are all doing well. A small farmer in St. Columb Minor has in his possession only eleven ewes, which he keeps as a yearly stock. Those eleven ewes have produced him this year 21 fine lambs, which are all living and likely to do well. A ewe belonging to Mr. Richard Honey, of Hicksmill, in the parish of Lewannick, has brought four lambs this season, which are now three weeks old, and likely to do well. The same ewe had four lambs last season, and three the season before, making eleven in two years, nine of which are now alive, and in the possession of Mr. Honey.

PRESENTATION OF GOLD PLATE TO W. BENNETT, ESQ., OF FAR- RINGDON HOUSE.

On Monday, March 19, a dinner was given at the Crown Inn, in this town, to William Bennett, Esq., of Faringdon House, the Lord of the Manor of Faringdon, at which about one hundred persons were present, consisting of most of the influential agriculturists and yeomen of the neighbourhood. R. W. Crowdy, Esq., in the chair, was supported on his right by Wm. Bennett, Esq., and on his left by E. M. Goodlake, Esq., of Wadley House.

After the cloth had been removed and the usual loyal toasts drunk, the Chairman rose, and after stating the object of the meeting, and that the committee had done him the honour to select him to preside on the occasion as having been one who had assisted in first promoting the market, in a most eloquent speech, which we regret the limits of our columns will not allow us to do justice to, said, that the Faringdon Monthly Cattle Market had met with a success which very far exceeded the most sanguine expectations of its projectors. That it was now so firmly established that other rival markets which had been lately formed in the neighbourhood could not injure its stability, and he trusted and believed that the farmer, the grazier, the dealer, and though last not least, the landholders; indeed all classes shared in its advantages, and participated in its benefit, and it gave him great pleasure in observing, that the complete success and establishment of the market should be attributed to the liberality of the gentleman on his right, Mr. Bennett, who had that day honoured the company with his attendance, and thus afforded them an opportunity of presenting to him a memorial of their gratitude, and of the high sense they entertained of such his kindness and liberality. A gentleman whose modest, unassuming deportment commanded the respect of all, while his feelings were ever alive to assist the poor, needy, and afflicted—but upon the occasion of this market, he had forgone and relinquished a considerable income of revenue and profit, in ceasing to collect the tolls and thereby conferring benefits on a numerous class of tenantry, yeomanry, and others frequenting it, that with one spontaneous feeling, they had raised by subscription a sum of money, and had purchased the cup then before him, which on behalf of the company and the subscribers generally, was intended to be presented to him as a memorial of their gratitude.

The Chairman then in a very impressive manner, presented to Mr. Bennett a most splendid gold vase and cover, made by Messrs. Storr and Mortimer, around which are elegant vine ornaments, chased devices of cattle, &c., and on the cover a bull, intending to serve as a handle, the whole mounted on a pedestal, on which we observed Mr. Bennett's arms and crest, and mask heads of cattle elegantly chased in relief, and the following inscription:—"Presented to William Bennett, Esq., Lord of the Manor of Faringdon, Berks, the 19th day of March, 1838, as a memorial of the benefit conferred on those frequenting the market of Faringdon, as well as the town by his liberality in hitherto relinquishing the tolls, and thus eminently contributing to the success of the Monthly Cattle Market."

The vase having been presented to Mr. Bennett, the chairman requested permission to have it filled to the brim with the landlord's best cordial, that the company might have the pleasure of drinking health, happiness, and prosperity to Mr. Bennett, to be accompanied by those honours which it is ever the pride of Englishmen, when assembled on occasions like the present, to manifest by their feelings towards a gentleman whose conduct like his, they so highly appreciated and admired. Mr. Bennett's health was then drunk with most vociferous cheering, which lasted a considerable time.

Mr. BENNETT then rose to return thanks. He said that if he had assisted in the establishment of the Faringdon Cattle Market by relinquishing the tolls, he

felt assured that he had done no more than what the promoters of the market, if similarly circumstanced, would have done towards him. That it had been stated by the worthy Chairman that by so doing he (Mr. Bennett) had sacrificed a considerable income—yet he asked what sum of money would have compensated him so efficiently as the honour which they had just conferred on him by presenting to him that splendid vase? It was, he said, exceedingly gratifying to him to see so numerous a meeting, composed of the most respectable and influential agriculturists of the neighbourhood, assembled for the purpose of testifying their approbation of what he considered a trifling effort on his part to assist in the establishment of the Faringdon Cattle Market, which object he was very glad to find was now so fully attained, and no one wished more for its prosperity than himself, and who would at all times be ready to lend a helping hand to further its object. He said he hailed with delight that he resided in so strictly an agricultural neighbourhood, and he urged the agriculturists to consider the propriety of forming a society for the purpose of encouraging breeders of stock, and awarding prizes to them and to the agricultural labourers, adding that he should be most happy to enroll his name as a member, and he hoped to be able to assist the society in more ways than one. He concluded with proposing the health of Mr. William Edmonds, of Kelmscot, and the rest of the Committee of the management of the Cattle Market.

Mr. WM. EDMONDS returned thanks, and said that if an agricultural society should be formed, he would feel pleasure in rendering it all the assistance in his power.

The CHAIRMAN next proposed the health of Thos. Mills Goodlake, Esq., which was received with great cheering.

Mr. GOODLAKE with great feeling and animation returned thanks, and in a very able address, which we regret we cannot give at length, said he perfectly concurred in the opinion that the Monthly Cattle Market was now fully established; he expressed his conviction that an agricultural society would be attended with great advantages as well to the agriculturist as to the deserving labourer, and that whenever the formation of such a society should be adopted, he would be ready to afford it all the support in his power, he said that his highest ambition was to merit the esteem and regard of those among whom he had the pleasure of residing, and that he was proud in having an opportunity of meeting so respectable a body of agriculturists as were then assembled.

Mr. GEO. FERRIS then rose, and in very appropriate terms addressed the meeting. He said that for some years past the times had been such, that the renting farmers had been prevented from improving their stock of cattle, and he recommended the landowners to provide for the use of their tenantry a North country or Herefordshire bull of the best description of breed and pedigree, so that the tenants might have an opportunity of breeding from their best cows, and thereby considerably improve the breed of cattle in this neighbourhood, and concluded by stating that he would support an agricultural society to the very utmost of his power.

Many other very excellent speeches were delivered, and propositions discussed in favour of the agricultural society, and of the establishment of a quarterly cheese market, to which many of the dairymen present engaged to give their utmost support, but our limits preclude us from further noticing them.

PICKLING OR SALTING TUBS.—We are frequently surprised to witness the adherence to old obstinate customs, of which our vastly increased means of acquiring knowledge, should teach the absurdity. To continue a practice merely because our ancestors in their comparative ignorance had established it,—to attend chemical lectures, talk of chemistry, read works, or extracts from works, in which that beautiful and invaluable science is proved to be of such immense import-

tance to our well-being, and to almost every department of our national manufacture, as well as our domestic consumption,—and yet, in defiance of all knowledge and instruction, to violate the very first principles of the science in the daily routine of domestic economy, is perfectly astonishing. In the instance of salting tubs, for example :—farmers and farmers' wives of the present day, are a different class from the plodding illiterate race who ploughed with their own hands; jogged with their eggs to market on “old blind Ball!” knew of no other than *The Book*; and placed their primitive $\propto$ instead of their names to the few simple documents of their unlitigious lives. Modern farmers have learnt to read, and write, and cast accounts, before they are eight years of age; have a smattering of literature on various subjects, and be sure *chemistry* is among them; yet are their salting or pickling tubs too frequently lined with lead; although it must, or ought to be known to them, that the vinegar, which some recipes direct to be poured over the hams, while they are being salted, or cured—acts upon lead, and produces a deadly poison called acetate of lead. Lead, in various preparations, as in that of goulard (sugar of lead), &c. &c., is an invaluable remedy when applied to the human frame externally; but if taken internally, is one of the most pernicious substances in nature. We are acquainted with two or three persons who have frequently suffered excruciating pains in the bowels, after having partaken of ham for a few successive days. Not being initiated in this wicked mystery of curing the meat, they have concluded that the agony was caused by saltpetre (that mineral being also used in the preparation of salted meat; and a most useless and pernicious ingredient it is, when thus employed), but the pain was doubtless occasioned by the chemical union resulting from the contact of vinegar with lead.

ON THE INFLAMMATORY COMPLAINTS OF FARM-HORSES.

BY MR. MATTHEW M. MILBURN, THORPFIELD, NEAR THIRSK, YORKSHIRE.

(The Premium of Five Sovereigns was awarded for this Essay by the Highland Agricultural Society.)

CAUSES.—In order to clear our investigation of some difficulties, it will be necessary to show that there is not any peculiar predisposition to disease in the breeds of horses usually employed in heavy draught, nor to any particular and characteristic conformation of the animals, which, I think, can easily be done. The coach-horse and the draught-horse are now very frequently bred from the same mare, and the breeds are so completely crossed and intermixed, that further than form and capability, with a sufficient degree of blood in the case of the coach-horse, they have lost their distinctive breeds. The horses employed in the cultivation of light soils, which the introduction of turnip-culture has so much extended, has caused the coach-horse and draught-horse to assimilate very closely. The peculiar characteristics of the old Suffolk breed, is lost in the continual crosses which have taken place to obtain more speed, and the farm-horses generally, perhaps with the exception of those used on very heavy soils, are partaking much of the character of the coach-horses of some ten years ago, and although a lighter class of animals have of late years been held in requisition for light work, to suit the rapid communication which our commerce demands, still so much intermixture has taken place in the different breeds, that no distinction can be pointed out between the one and the other, in so far as liability to the diseases in question is concerned. We are not

aware that any peculiar conformation has any connection with the predisposition to such diseases. The horse required for fast-work must have a capacious chest, to admit of the rapid propulsion of the blood which his exertion demands; but the horse of heavy draught also is valuable for his depth and rotundity of chest, to enable him to perform the tremendous exertion which is occasionally required of him. There are two instances, however, where constitutional peculiarities may predispose to the complaints in question. There are certain horses denominated “*washy*,” or horses in which the space between the last false rib and the hip-bone is wide; in the language of the jockey, when he is not “well ribbed home;” such are known to be liable to diseases of the bowels when put to extra exertion,—but upon what principle I am unable to say. Others have a natural or acquired habit of voracious feeding, which is extremely prejudicial to the healthy action of the digestive and excretory organs, and to which I shall presently allude.

The post-horse, and such as are required to perform fast work, are more liable to attacks of diseases of the brain, the nerves, and the lungs, simply because their work consists of rapid powerful exertion;—the farm-horse,—the animal of long and steady exertion, to gripes, inflammation of the bowels, and stomach staggers,—results, as I shall presently shew, of a management unsuited to the character of the labour we require from them. The stomach of the horse is remarkably small;—smaller in proportion to his size, and the quantity of food he requires, than any other domestic animal. Nature intends for him a supply of nutritious food, and that at short intervals; wherein he materially differs from the ox, whose capacious stomach will contain food which will not be digested for hours. The post-horse, the hunter, and the carriage-horse, have food of the most nutritious description, and the time during which they are worked is necessarily short, owing to the extreme exertion required; they return to their food, and although their appetite may for a time be impaired, and their stomach and bowels affected by the general debility of the system, yet they recover their tone, as soon as the rest of the frame admits of their taking food. The farmer's horse, on the contrary, has food of a less nourishing nature, his rack is filled with straw, or, at best, with clover;—the ploughman rises early, gives him a feed of corn, and leads him to his work, where he continues for seven, eight, and even nine hours, and his whole day's work is completed before he is allowed to eat. We do not find the ox, worked under similar circumstances, so affected in the stomach and bowels, simply because his capacious stomach, when filled, requires many hours to empty, while, as we have seen, it is different with the horse. Debilitated and hungry, the horse returns, and his rack is plentifully supplied, and a good feed of corn given him, and he is left to himself; he eats voraciously, half masticates his food, loads his debilitated stomach, and his digestive organs are weakened, and permanently injured. This course is repeated,—a habit of voracity is acquired, and at no very remote period the food lodges and obstructs the pyloric orifice (the passage from the stomach to the bowels), fermentation ensues,—gas is evolved, the stomach distended; he grows sluggish and sleepy,—drops his head upon his manger; or he is delirious, and evinces that the sympathy which exists between the stomach and the brain has excited the latter organ; he rolls, paws, and is seized with convulsions; at length he expires, and he has died of stomach staggers. If the previous history of the horse is examined, it is probable that

he has been subject to gripes; thus showing, not only the connection between the common management of farm-work horses, and diseases of the organs of digestion and excretion, but between the two latter. The half-masticated food has irritated the bowels, extra exertion of the muscles has been required to propel the dung to the rectum, and choleric or cramp (spasms) of the bowels, has followed, or a course of continued irritation, or of continued choleric, or both, has ended an inflammation of the bowels. I remember a beautiful farm-horse, which, owing to the distance of part of the farm to which he belonged from the buildings, was worked the long hours described, and finished his day's work before his bait. He was constantly subject to attacks of the gripes, which were subdued; but he died of stomach staggers. The same stable, then so often subject to diseases, is now, by a change in the system, completely free from them. Another case, however, occurred, —a beautiful compact little mare was constantly afflicted by choleric,—she eventually died of inflammation of the intestines.

There are other parts of the management to which horses employed in agriculture are subject, which induce diseases of the bowels; for instance, a boy returning from work, with heated and sweating horses, to save himself trouble, allows them to drink copiously at some pool or stream he passes. Suddenly one or more of the horses exhibit symptoms of gripe, they suddenly lie down, roll about, look at their sides, rise up, seem relieved, and again speedily relapse; the sudden application of the cold water has produced spasms in the bowels, through which it has passed. This is neglected, or perhaps gin or whiskey, aided by pepper, is administered as a remedy, and severe and general inflammation of the bowels is the result; this is mistaken for another attack, and again the poison is administered, and the inflammation increased, and death follows. The horse of heavy work, too, is longer exposed to the inclemencies of the weather than the animal of light work. In the former, the rain is allowed to fall upon him for hours, and it is allowed to *dry upon his back*; the sympathy between the skin and the alimentary organs is known to every groom,—obstructed perspiration, and consequent irritability, is conveyed from the one to the other, and disease is the consequence. It is true, the latter is also partly exposed to the rain, but for shorter periods, and the wisp and brush are liberally applied when he enters the stable; a determination of blood takes place to the skin, perspiration is excited, and diseases thus prevented.

There is another disease to which horses are subject, and which is at once the cause and consequence of inflammation of the intestines. I mean intestinal calculi. Inflammatory action of the bowels, like that of every other part of the system which comes in contact with any foreign body, is liable to produce calculi, which in turn irritate the bowels, and produce a lasting predisposition to disease. For this I am not aware that any remedy has been discovered, and what is worse, they generally accumulate with age, and eventually produce death, the only power over them arising in our endeavours at prevention.

PREVENTION.—Of the best means of preventing these diseases in farm-horses we will now treat. We have attributed the peculiar liability to them in farm-horses to mismanagement, with the exception of certain instances of peculiar formation of the animals, and although the farmer must necessarily work his horses longer hours than the horse of rapid work is capable, there is no necessity of depriving the animal so long of food. No horse should work more

than five or six hours without a bait. If we examine the history of the stables of large farmers, whose fields necessarily lie at a great distance from the buildings, and where they are worked long in consequence, and compare it with that of small farmers, under the contrary circumstances, we shall find a striking difference as respects the health of the animals. The case referred to above strikingly illustrates the truth of this observation. But, it may be asked, how is it possible to bait the animals so far from home? The difficulty seems to be in procuring food upon the spot, for if this is not done, the precaution will be neglected, and, at any rate, the land will be occupied by it. This, however, may be remedied. In the case, for instance, of a field intended for turnips, which has to be worked during the spring, a part of it, half an acre, or in proportion to the size of the field, may be sown with winter-tares, a few of which may be mown off, and given to the animals green, without carrying them from the field, interfering with any crop, or wasting any time in carrying the horses to a distance. If the field be intended for summer-fallow, the spring tare will answer, and which may be used in the same manner, instead of allowing the poor animals greedily and indiscriminately to crop the leaves of the hedges at every turning, from the impulse of hunger. There is another easy way of baiting, which some carters adopt, and which might be applied to the farmer's horse, especially when carting. It consists in securing a bag, containing corn, over the animal's mouth and nose, by a string, which passes over the poll, and is locally denominated a "nose-bag," or "horse-poke," and which should be removed when he has finished his feed. To prevent the effects of the wet upon the skin, an unexpensive glazed cloth may be thrown over the horses' backs, and secured to the collar and traces. This may by some be considered very troublesome, but, it will be found, that when it is once begun, it will be considered no more trouble than carrying the rest of the harness, and if disease is prevented, the trouble amounts to nothing. To counteract as much as possible any habits of greedy feeding which the horse may have acquired, his corn should be mixed with chopped straw, or chopped clover, which will secure its proper mastication, and prevent many troublesome complaints, as well as render all the nutrition of the food available. These may be substituted by an admixture of clean chaff with corn, a plan which is pursued in a farm stable with which I am acquainted, and is found a useful practice. It would save the animals much time in eating, if all their food was chopped, and perhaps steamed; but on this subject we have not sufficient data to determine it with accuracy.

CURE OF THE DISEASES.—The cure, it has been hinted, must generally be left to the veterinary practitioner in the complicated diseases of the horse; but I shall refer to the principles of cure, in order to guide the farmer from some errors into which he may otherwise possibly fall. To begin with the most difficult, stomach staggers, which is distinguished from mad staggers, by the sluggishness or dulness of the animal in the first stage of the complaint; but from the sympathy between the stomach and brain, the former often ends in the symptoms of the latter. All the efforts of the practitioner must be to empty the stomach; it is often a fruitless attempt, but a powerful dose of castor-oil (1½ lb.) may be tried, as being rapid in its effects, and mollient to the hardened food in the stomach. Bleeding may also be useful, in preventing the delirium. In the early stage of the disease, a stomach pump may be used to wash the food from the stomach; but here an ex-

perienced practitioner alone will be able to do it. Gripes or colic are, fortunately, generally more easily subdued; they are distinguished from inflammation of the bowels by the suddenness of their attack, the temporary relief from pain, and the relief obtained from exercise, the symptoms of the latter being directly contrary. Bleeding alone will frequently relieve the spasm, but I have known a very simple remedy used with almost general success. Goose fat, in the quantity of a pound or three quarters given warm, generally produces relief in a very short time, if accompanied by walking exercise. In severe cases, one ounce of laudanum and a dram of powdered ginger, in a quart of warm ale, may be used with probable success.

Inflammation of the bowels is worse to cope with than gripes, and a farmer should never attempt the cure himself. He should call in the veterinary surgeon immediately. The disease may be distinguished by a coldness of the extremities; this at least indicates inflammation, or that the blood is determined to some local part, and the heaving of the animal's flanks, and his anxious looks at his bowels, as well as their tenderness when touched, will indicate the seat of the inflammatory action. The first object is to relieve the system, and counteract the impetus of the blood; bleeding persevered in until the horse drops, is the only chance for saving his life. There is another principle in horse medicine which here will be called into vigorous action. No severe inflammation can take place in two contiguous parts of the system at the same time. To lessen the internal inflammation, the belly must be largely and powerfully blistered, and these are the two means for subduing the disease. No purgative medicine should be given, but the horse back-raked, to prevent the formation of calculi, and a glyster administered in the form of onion broth. All stimulants must be avoided, as they are sure to act as poison to the animal. In conclusion, I would impress upon the persons concerned, to aim at *prevention*, where their efforts will generally prove available, for they seldom are so in the curative process.

THE HORSE.—STABLE OPERATIONS.

DRESSING AFTER WORK.—This operation varies according to many circumstances; it is influenced by the kind of horse, the state and time in which he arrives at the stable. Slow-working horses merely require to be dried and cleaned; those of fast work may require something more, and those which arrive at a late hour are not usually dressed as they would be by coming home earlier. The principal objects in dressing a horse after work are to get him dry, cool, and clean. It is only, however, in stables tolerably well regulated that these three objects are aimed at, or attainable. Carters, and other inferior stablemen, endeavour to remove the mud which adheres to the belly, the feet, and the legs, and they are not often very particular as to the manner in which this is done. If a pond or river be at hand, or on the road home, the horse is driven through it, and his keeper considers that the best, which I suppose means the easiest, way of cleaning him. Others, having no such convenience, are content to throw two or three buckets of water over the legs. Their only way of drying the horse is by sponging the legs, and wiping the body, and this is generally done as if it were a matter of form, more than of utility. There are some lazy fellows who give themselves no concern about dressing the horse. They put him in the stable wet and dirty as he comes off the road; and after he is dry, perhaps he gets a scratch with the currycomb, and a rub with the straw wisp. Fast-working horses require very differ-

ent treatment. The rate at which they travel renders them particularly liable to all those diseases arising from, or connected with changes of temperature. In winter, the horse comes off the road, heated, wet, and bespattered with mud; in summer, he is hotter, drenched in perspiration, or half dry, his coat matted, and sticking close to the skin. Sometimes he is quite cool, but wet, and clothed in mud. The treatment he receives cannot be always the same. In Summer, after easy work, his feet and legs may be washed and dried, and his body dressed in nearly the same manner that it is dressed before work. The wisp dries the places that are moist with perspiration, the currycomb removes the mud, and the brush polishes the hair, lays it, and takes away the dust. The dressing in such a case is simple and soon over, but it is all the horse requires. When drenched in rain or perspiration, he must be dried, by means of the scraper, the wisp, and evaporation; when heated, he must be walked about till cool, and sometimes he may be bathed, that he may be both cooled and cleaned.

SCRAPING.—The scraper is sometimes termed a sweat-knife. In some stables it is just a piece of hoop iron, about twenty inches long, by one and a-half broad; in the racing and hunting stables it is made of wood, sharp only on one edge, and having the back thick and strong. When properly handled it is a very useful instrument. The groom taking an extremity in each hand, passes over the neck, back, belly, quarters, sides, every place where it can operate; and, with a gentle and steady pressure he removes the wet mud, the rain, and the perspiration. Fresh horses do not understand this, and are apt to resist it. A little more than the usual care and gentleness at the first two or three dressings render them familiar with it. The pressure applied must vary at different parts of the body, being lightest where the coat and the skin are thinnest. The scraper must pass over the same places several times, especially the belly, to which the water gravitates from the back and sides. It has little or nothing to do about the legs, these parts are easily dried by a large sponge, and are apt to be injured by the scraper. This operation finished, the horse, if hot, must be walked about a little, and if cool, he must be dried.

WALKING A HEATED HORSE.—Every body knows that a horse ought not to be stabled when perspiring very copiously; he must not stand still. It is known that he is likely to catch cold, or to take inflamed lungs, or to founder. By keeping him in gentle motion till cool, these evils are prevented. This is all that stablemen can say about it, and perhaps little more can be said with certainty. We must go a little deeper than the skin, and consider the state of the internal organs at the moment a horse has finished a severe task. The action of the heart, the blood-vessels, the nerves, and perhaps other parts has been greatly increased, to correspond with the extraordinary action of the muscles, the instruments of motion. The circulation, once excited, does not become tranquil the moment exertion ceases. The heart, and other internal organs which act in concert with the heart, continue for a time to perform their functions with all the energy which violent muscular exertion demands, and they do mischief before they are aware that their extraordinary services are no longer required. An irregularity in the distribution of the blood takes place; some part receives more than it needs, and an inflammation is the result. Motion prevents this, because it keeps up a demand for blood among the muscles. The transition from rapid motion to rest is too sudden, and should be broken by gentle motion. If the heart and nervous system could be restrained as easily as the action of the voluntary muscles, there would be no need of walking a heated horse, since it would be sufficient to render all the organs tranquil at the same time.

This brief analysis of what is going on internally, may be useful to those who would know exactly when it is safe to put a heated horse to perfect rest. It is needless to keep him in motion after the pulse has sunk to nearly its natural number of beats per minute, which is under 40. Stablemen go by the heat of the skin, but

on a hot day the skin will often remain above its usual heat, for a good while after the system is quite calm. The state of the skin, however, in general indicates the degree of internal excitement with sufficient accuracy.

The object, then, in walking a heated horse, is to allay the excitement of exertion, in *all* parts of the body at the same time and by degrees, to keep the muscles working because the heart is working. The motion should always be slow, and the horse led, not ridden. If wet, and the weather cold, his walk may be faster than summer weather requires.

When the state of the weather, and the want of a covered ride put walking out of the question, the horse must either go to the stable or he must suffer a little exposure to the rain. When much excited, that is, when very warm, it is better that he should walk for a few minutes in the rain, than that he should stand quite still. But a horse seldom comes in very warm while it is raining. If he must go into the stable it should not be too close. To a horse hot, perspiring, and breathing very quick, a warm stable is particularly distressing. Some faint under it. Till somewhat calm he may stand with his head to the door, but not in a current of cold air, at least not after he begins to cool.

WALKING A WET HORSE.—Gentle motion to a heated horse is necessary, to prevent the evils likely to arise from one set of organs doing more than another set requires. But in many cases motion after work is useful when the horse is not heated. He may come in drenched with rain, but quite cool, and there may be no one at hand to dry him, or his coat may be so long that one man cannot get him dry before he begins to shiver. In such cases the horse should be walked about. Were he stabled or allowed to stand at rest in this state, he would be very likely to suffer as much injury as if he were suddenly brought to a stand-still when in a high state of perspiration. Evaporation commences; the moisture, with which the skin is charged, is converted into vapour, and as it assumes this form it robs the horse of a large quantity of heat. If he be kept in motion while this cooling and drying process is going on, an extra quantity of heat is formed, which may very well be spared for converting the water into vapour, while sufficient is retained to keep the skin comfortably warm. Every body must understand the difference between sitting and walking in wet clothes. If the horse be allowed to stand, while wet, evaporation still goes on. Every particle of moisture takes away so much heat, but there is not stimulus to produce the formation of an extra quantity of heat; in a little while, the skin becomes sensibly cold, the blood circulates slowly, there is no demand for it on the surface, nor among the muscles, and it accumulates upon internal organs. By and by the horse takes a violent shivering fit; after this has continued for a time, the system appears to become aware that it has been insidiously deprived of more heat than it can conveniently spare; then a process is set up for repairing the loss, and for meeting the increased demand. But before this calorifying process is fairly established, the demand for an extra quantity of heat has probably ceased. The skin has become dry, and there is no longer any evaporation. Hence the heat accumulates, and the horse is fevered. I do not pretend to trace events any further. The next thing of which we become aware is generally an inflammation of the feet, the throat, the lungs, or some other part. But we cannot tell what is going on between the time that the body becomes hot, and the time that inflammation appears. I am not even certain that the other changes take place in the order in which they are enumerated; nor am I sure that there is no other change. The analysis may be defective; something may take place that I have not observed,

and possibly the loss of heat by evaporation may not always produce these effects without assistance. It is positively known, however, that there is danger in exposing a horse to cold when he is not in motion; and, which is the same thing, it is equally, indeed more dangerous to let him stand when he is wet. If he cannot be dried by manual labour, he must be moved about till he is dried by evaporation.

WISPIING A WET HORSE.—When there is sufficient strength in the stable, the proper way to dry the horse is by rubbing him with wisps. After removing all the water that can be taken away with the scraper, two men commence on each side. They rub the skin with soft wisps; those which absorb moisture most readily are the best, and should be often changed. None but a bred groom can dry a horse expeditiously and well in this way. The operation requires some action and a good deal of strength. An awkward groom cannot do it, and a lazy fellow will not. They will wisp the horse for a couple of hours, and leave him almost as wet as at the beginning. They lay the hair but do not dry it, and they are sure to neglect the legs and the belly, the very parts that have most need to be dried quickly. The man must put some strength into his arm. He must rub hard, and in all directions, across, and against the hair, oftener than over it. His wisp should be firm yet soft, the straw broken. Some cannot even make this simple article. A stout fellow may take one in each hand, if only two are employed about the horse; and a boy must often take one in both his hands. Two men may dry a horse in half an hour, a little more, or a little less, according to his condition, the length of his coat, and the state of the weather.

CLOTHING A WET HORSE.—When the horse can neither be dried by the wisp, nor kept in motion, some other means must be taken to prevent him catching cold. He may be scraped and then clothed, or he may be clothed without scraping. This is not a good practice, nor a substitute for grooming; it is merely an expedient which may be occasionally resorted to when the horse must be stabled wet as he comes off the road. Clothing renders him less likely to catch cold, but it does not perform the duty that ought to be performed by the groom. When the horse is completely and quickly dried by manual labour, there is not the slightest chance of his suffering any mischief from cold; the friction of the wisp keeps the blood on the surface, and the horse can be put up quite comfortable. When he is kept in motion till the moisture has all evaporated, he can suffer no more injury than if he were brought in quite dry. When clothing is applied, it is with the intention of checking evaporation. It makes this process go on more slowly than if the horse were naked; in consequence he loses less heat in a given time, and he never becomes very cold. The clothing also absorbs much of the water, which, if allowed to evaporate, would take away much heat that is thus retained. Of course, the horse remains wet for a longer time than if he were unclothed. But it is doubtful if moisture applied occasionally for an hour or two on the skin is injurious. It probably has some influence; but it is well known that cold has much more. Long continued moisture injures the coat, destroys its glossy appearance, but I am not aware that it does any thing else. I am not speaking of moisture applied for many successive hours, but of that which is retained perhaps an hour longer by clothing than it would remain if allowed to evaporate without interruption. I am aware that a horse is apt to perspire if clothed up when his coat is wet or damp. But this takes place only when the

clothing is too heavy, or the horse too warm. In the case under consideration the clothing, unless the horse be cold, is not intended to heat him, but to prevent him from becoming cold. In hot weather, a wet horse requires less care; he need not be clothed, for evaporation will not render him too cold; and if his coat be long, it will, without the assistance of clothing, keep the skin tolerably warm even in weather that is not hot. In all cases the cloth should be of woollen, and thrown loosely over the body, not bound by the roller, and in many cases it should be changed for a drier and a lighter one as it becomes charged with moisture.

To many people all this care about a wet horse will appear to be superfluous. They will observe that horses are frequently exposed to all weathers, and to the worst of stable treatment, without receiving any apparent injury. This is true with regard to many horses; their work is not exciting, not requiring that exertion which agitates the whole frame. There are horses, too, of less value, but performing work of the severest kind, upon whom a great deal of care cannot be bestowed. The proprietor may think it is cheaper to let the horses run considerable risk than to keep a sufficient number of men for taking better care of them. These can be right only when their horses are very worthless, and perhaps not then. In a valuable stud it is otherwise. The extra expense of such careful treatment is not to be considered where horses are worth from fifty pounds to more than five hundred. It is also true that among stage-coach, and other horses of a similar kind, there are many who do not receive any injury from a wet coat. Those that have been gradually injured to exposure, or to stand unheeded till they dry, may feel cold and uncomfortable, and have a long, rough coat, but their health remains unaffected. The power of the system to accommodate itself to circumstances is very great. These horses are as easily wet to the skin as other horses; but their skin has learned to furnish an additional supply of heat, so soon and as often as the evaporating process demands it. Such horses require little care, though more would make them look better. But stablemen who know this, are apt to treat all the horses alike. The young and the delicate must have additional care till they are inured to exposure.

All horses, whatever be their age, condition, and work, are most easily injured by exposure to cold, after they have been heated by exertion. Every man may have proof of this in his own person. After perspiring he feels cold and disposed to shiver, though by this time the skin may be quite dry. It is the same with the horse. Before he has been heated he might stand in the cold, or with his coat wet for perhaps half an hour, without any danger; but after he has perspired pretty freely from exertion, motionless exposure in a cold atmosphere for fifteen minutes will do him more harm than he would receive in thirty minutes before the exertion; or, in the one case, he would be none the worse—in the other, he would have a cough next day.

Therefore, a wet horse requires most care when his work has heated him. He must be dried more quickly, or kept in motion for a longer time than if he had not been excited.

It is continued cold that does the mischief in all cases; some, from habit, will bear much more than others, but none seem able to bear it so well after as before perspiring. The intolerance of cold seems to remain for an hour or two after the horse is quite cool, and to increase as the skin loses its heat.

The first symptom of approaching danger is starting of the coat; if the horse be immediately put

into a warm stable, or warmly clothed, or put in motion, he may, and probably will, escape. The second symptom is shivering, which ought to be quickly arrested by applying warmth. There is no danger in exposure, so long as the skin remains comfortably warm or hot.

TO REMOVE THE MUD.—There are two ways of removing the mud. One may be termed the dry, and another the wet mode. The first is performed by means of the scraper and the currycomb, or a kind of brush made of whalebone, which answers much better than the currycomb. In most of the well-regulated coaching stables, the strappers are never allowed to apply water to a horse that has come off the road. The usual practice is to strip off the mud and loose water by the sweat-knife; to walk the horse about for ten minutes if he be warm or wet, and the weather fair, otherwise he stands a little in his stall or in an open shed; then the man begins with the drier of those that have come in together. Much of the surface mud which the scraper has left about the legs is removed by a straw wisp, or a small birch broom, or the whalebone brush; the wisp likewise helps to dry the horse. The whalebone brush is a very useful article when the coat is long. That, and the currycomb, with the aid of a wisp, are almost the only implements coaching strappers require in the winter season. It clears away the mud and separates the hairs, but it does not polish them. A gloss such as the coat of these horses requires is given by the wisp. The Whalebone brush is sometimes too coarse, and many horses cannot bear it at any time, while others can suffer it only in winter. After the mud has been removed with this brush, the matted hair parted by the currycomb, and the horse dusted all over with the wisp, his feet are washed, the soles picked, the shoes examined, the legs and heels well rubbed, partly by the hand and partly by the wisp, and the mane and tail combed. In the best of these stables he is well dressed with the bristle brush before he goes to work. In other stables the usual mode of removing the mud is by

WASHING.—When the horse is very dirty he is usually washed outside the stable; his belly is scraped, and the remainder of the mud is washed off at once by the application of water. Some clean the body before they wash the legs; but that is only when there is not much mud about the horse. They do so that he may go into the stable quite clean. He soils his feet and legs by stamping the ground when his body is being cleaned. It matters little whether the dressing commence with the body or with the legs; but when the legs are washed the last thing, they are generally left undried. In washing, a sponge and a water-brush are employed. Some use a mop, and this is called a lazy method; it is truly the trick of a careless slob; it wets the legs but does not clean them. The brush goes to the roots of the hair, and removes all the sand and mud, without doing which it is worse than useless to apply any water. The sponge is employed for drying the hair, for soaking up and wiping away the loose water. Afterwards, the legs and all the parts that have been washed, are rendered completely dry by rubbing with a straw wisp, the rubber, and the hand. Among valuable horses this is always done; wherever the legs have little hair about them, and that little cannot be properly dried after washing, no washing should take place.

WET LEGS.—It is a very common practice, because it is easy, to wash the legs; but none, save the best of stablemen, will be at the trouble of drying them; they are allowed to dry of themselves, and

they become excessively cold. Evaporation commences; after a time a process is set up for producing heat sufficient to carry on evaporation and to maintain the temperature of the skin. Before this process can be fully established, the water has all evaporated; then the heat accumulates; inflammation succeeds, and often runs so far as to produce mortification. When the inflammation is slight and transient, the skin is soon completely restored to health, and no one knows that it had ever been inflamed. When the process runs higher, there is a slight oozing from the skin, which constitutes what is termed grease, or a spot of grease, for when this disease is spread over a large surface, it is the result of repeated neglect. When the inflammation has been still more severe, mortification ensues; the horse is lame, the leg swollen, and in a day or two a crack is visible across the pastern, generally at that part where the motion is greatest. This crack is sometimes a mere rupture of the tumefied skin, but very often it is produced by a dead portion of the skin having fallen out; what is called a core in the heel arises from the same cause; it differs from the crack only in being deeper and wider. The reason why cold produces such local injury of the skin covering the legs, and not of that covering any other part, is sufficiently plain. The legs, in proportion to their size, have a very extensive surface exposed to evaporation, and the cold becomes more intense than it can ever become on the body. To avoid these evils, the legs must either be dried after washing, or they must not be wet.

Among horses that have the fetlocks and the legs well clothed with long and strong hair, it is not necessary to be so particular about drying the legs; the length and the thickness of the hair check evaporation. This process is not permitted to go on so rapidly; the air and the vapour are entangled among the hair, they cannot get away, and of course cannot carry off the heat so rapidly as from a naked heel. But for all this, it is possible to make the legs, even of those hairy-heeled horses, so cold as to produce inflammation. And when these horses have the legs trimmed bare, they are more liable to grease than the lighter horse of faster work. But the greatest number of patients with grease, occur where the legs and heels are trimmed, washed, and never properly dried. There is no grease where there is good grooming, and not much where the legs are well covered with hair. It is true that fat or plethoric horses are very liable to cracks and moisture of the heels, but though it may not be easy, yet it is quite possible for a good groom to prevent grease even in these horses.

The proprietors, of coaching studs, a great many of them, find that the strappers have not time nor inclination to dry the legs after washing, and they prohibit the operation altogether. The men, nevertheless, are very fond of washing; it is easier to wash the legs clean than to brush them clean; and laziness is never without its plea. It is said that washing has nothing to do with grease or cracked heels, and that these diseases will occur where no washing is ever allowed. This is partly true, but the grease arises from the same cause; though the legs are not washed, yet they are not dried when the horses come in with them wet; hence the great number of cases in wet winters. It is also said that if the legs be wet when the horses come in, washing cannot make them wetter; though the legs be wet yet they are warm, and if they must be washed it should be with water warm as the skin.

I am not objecting to washing under all circumstances. It is a bad practice, among naked-heeled

horses, only when the men will not or cannot make the legs dry. In a gentleman's stable the legs ought to be washed, but they ought also to be thoroughly dried before the horse is left. It is the evaporation, or the cold produced by evaporation, that does the mischief. In a cart-horse stable there is less chance of washing doing any harm; the long hair preventing the legs from becoming very cold; still, if grease, swelled legs, or cracked heels occur often, either washing must be prohibited, or the legs must be dried after it, or the washing must be performed at other times. In a farm stable, the man after working the horse all day cannot be expected to bestow an hour or two upon the legs at night; but he may forbear washing when he finds that grease is the consequence. He may brush off the mud, when it is dry, and a wisp or a sponge will take away the loose water which the horse brings from his work. If the legs become itchy and scurfy under this treatment, they may be washed once or twice a week with soapy warm water, well applied, by means of a brush that will reach the skin; and this washing, particularly in cold weather, should be performed *before* the horse goes to his work, not after it. While he is in motion the legs will not become cold. The object of such a washing is not to clean the hair, but to clean the skin, which is apt to become foul and to itch from the mud adhering to it undisturbed. Upon drawing the hand over the pasterns and the legs, when in this state, numerous pimples are felt, some of which are raw. The horse is often stamping violently, and rubbing one leg against another. A solution of salt is a common and useful remedy against the itchiness, but it will not prevent a return.

I am aware that in many coaching stables the men are still permitted to wash the horse's legs, without being compelled to dry them. This is no argument in favour of washing; for unless the legs be well clothed with hair, they will always tell the same tale. The horses that have recently entered these studs have grease, swelled legs, and cracked heels: those that have been a longer time in the service may be free from these, yet they show that they have had them over and over again. Their legs are round and fleshy; the skin thick, bald, seamed, callous. Nature has done much to inure the skin, but not before the horse has given a great deal of trouble, and perhaps not till he is permanently blemished.

BATHING.—This name may be given to the operation of washing the horses all over. Where possible, and not forbidden by the owner, a lazy or ignorant groom always performs it in the neighbouring river or pond. Some take the horse into the water till it is up to his belly, and others swim him into the depths, from which man and horse are often borne away with the stream, to the great grief of the newspaper editor who deplores their melancholy fate; by which I suppose he means melancholy ignorance.

These river bathings ought to be entirely prohibited. In this town boys are often sent to the Clyde with horses, and they play themselves in the water, wading here and there, and up and down, till the horse is benumbed and carried off, or hardly able to reach the shore. Besides this risk, he is cooled both without and within, for he is generally permitted to drink at the same time. The running water removes the mud very effectually, but that can be done quite as well, and with less danger to the horse, though with a little more trouble to the keeper in the stable-yard. There are only certain times in which bathing is proper, and these times are never observed when the men have got into the habit of going to the river.

In cold weather it is an act of madness. During some of the hottest days in summer, a general bathing is wonderfully refreshing to a horse that has run a stage at the rate of ten miles an hour. It cleans the skin more effectually than any other means, and with less irritation to the horse; it renders him comfortably cool, and, under certain conditions, it does him no harm. Those employed in public conveyances, are almost the only horses that require it. During very hot weather they suffer much, from the pace at which they travel. They come off the road steeped in perspiration, but in a few minutes they are dry. The coat is thin and short, and the hairs glued together by dirt and sweat; to raise and separate them with the currycomb is productive of much pain, greatly aggravated by the fevered condition of the horse. The best way of cleaning a horse in this state is by washing him. The operation is performed by the water brush and the sponge. The horse should stand in the sun. The man taking a large coarse sponge in his hand, usually commences at the neck, close to the head; he proceeds backward and downward till he has bathed the horse all over. This may be done in two minutes. Then, dipping his brush into the water, he applies it as generally as the sponge, drawing it always in the direction of the hair, without any rubbing. The sponge merely applies the water; the brush loosens and removes the dust and perspiration which adhere to the hair. The sweat-knife is next employed, and the horse being scraped as dry as possible, he is walked about in the sun for half an hour, more or less, till he be perfectly dry. During the time he is in motion the scraper is re-applied several times, especially to the belly, and the horse gets water at twice or thrice. When quite dry he is stabled, and wiped over, perhaps lightly brushed, to lay and polish his coat, and when his legs are well rubbed he is ready for feeding.

To the hackney and the stage-coach horse, a bathing of this kind may often be given with great benefit. It improves the appearance of the skin, and subdues that fevered state of the system in which horses often remain for a long time after severe exertion under a burning sun. It must not be overdone. The horse should be washed and dried as quickly as possible. The object is to render him comfortably cool, not to freeze him. Upon cold, wet, or cloudy days it is forbidden, and after sunset it is out of the question. For slow-working horses it is neither necessary nor proper. The excitement of their work is so moderate, that the circulation becomes tranquil soon after the work is over. They are not so difficult to clean, and they are not liable to the faint fevered condition which fast work produces in hot weather. The men who attend these slow horses are seldom able to bathe them, even though bathing were beneficial. They have not sufficient despatch.

CORN LAWS.

TO THE NORFOLK FARMERS.

On reading the speech of the Marquis of Chandos in the debate on the Corn Laws, I observe the Noble Lord is most eloquent and disinterested in his observations for the interest of the landlords; he hardly hints that in doing away those laws it would be injurious to them. His great solicitude and anxiety therein is the injury and loss it will occasion the farmers; they, it appears from his

argument, are to be the *only sufferers*. The landlords are out of the question; they do not want Corn Laws—no, it is only to prevent and deliver the farmers from utter ruin and bankruptcy. Surely this shows genuine kindness and regard for the tenantry and constituents of the Noble Lord, as also all other farmers throughout the kingdom, and we ought to be extremely obliged to him.

I beg to observe, as farmers, we are entitled to an equal protection with all other of her Majesty's dutiful subjects. Our capital is invested in the cultivation of the soil, and I think we ought to be satisfied in being placed under the same relative laws as the manufacturers and tradesmen in general—namely, to prevent the importation of foreign corn without a protecting fixed duty, to be paid on importation on the same principle as other goods or merchandize, allowing a return of duty in case of exporting it. It is only justice to the farmer, if foreign corn comes to our market, it should contribute towards the expenses of the State in the proportion with corn of our own growth, for although we do not pay a direct tax on corn, we do it indirectly by the malt and other duties. I would admit foreign corn at all times to be imported on paying a duty, on the same principle as sugar, cotton, spirits, and other merchandize. If a merchant goes to a foreign market to purchase a cargo of corn, and knows the import duty is fixed at 10s. a quarter, of course he buys it at 10s. a quarter less than he would if there was no duty—and thus the foreigner indirectly pays the duty on his corn, whether imported by himself or the English merchant, thereby contributing towards the expenses of our Government.

The origin of the present Corn Laws was ostensibly to keep the price of wheat up to 80s. a quarter, in order to insure high rents and tithes to the landlords and tithe-owners—and notwithstanding the sophistry and delusion of the Noble Marquis, addressed to the House in behalf of the farmers, that was and *is the fact*. The ruin of the farmers indeed is mere pretence, and to benefit the land-owners and clergy is the *real object* of the Noble Lord. The attempt to keep corn at a high price is proved to be a complete failure, and has proved the ruin of many farmers—for notwithstanding these protecting laws during the 40 years which I have grown it, I never sold wheat of the same good quality so low as 36s. a quarter until about two years since; therefore let me warn all farmers they may expect to sell it for that price again in *opposition to the Corn Laws*. It is complete delusion in the farmers to expect a high price for corn when manufactured goods in general are cheap, and I contend no farmer, under present circumstances, who inconsiderately hires land at a high rent, is entitled to an abatement in case corn is low, because we have no reason to expect corn can or will continue high.

It is, I presume, at last ascertained by the Agricultural Association, there is no hope of relief or assistance from Parliament; they are now satisfied it rests with themselves, and that it is from their own exertions they can contend with their embarrassments. From the relative situation of landlord and tenant at the present time, when the farmer seldom has a lease of more than eight or ten years, an alteration in the Corn Laws on the principle I have suggested would not be of much consequence; and if such a system was adopted as permanent, it would be more likely to reduce corn to a steady price, and not liable to such variation as to injure the farmer, but ensure him a remunerating price according to his rent and other out-goings, and also enable him to ascertain what is a fair and just rent.

It is stated that agriculture is in its infancy; if so, I fear it will be many centuries before it attains full growth, unless the progress is far different from what it has been within my memory. As it regards this county, I believe it has gone back in the last twenty years, inasmuch as the corn grown is less than it was. I think in breeding and grazing sheep and cattle it has improved (thanks to the Earl of Leicester), and thereby the poor lands are rendered productive of some rent, and kept in cultivation. In conclusion, I would advise my brother farmers to beware of *expecting* any benefit from the Corn Laws as at *present established*, and avoid the delusive hopes held out to them by the Noble Marquis and other advocates, who, under the *mask of delivering* them from ruin and bankruptcy, are more desirous of securing *high rents and tithes*.

I am, gentlemen, yours sincerely,
Caister, March 26, 1838. THOS. CLOWES.

THE JOLLY OLD SQUIRE.

[AN ORIGINAL SPORTING SONG.]

The Squire, the old Squire, is gone to his rest;
His heart was the bravest, his horse was the best,
His cheer was unequal'd, his wine without peer,
And he kept open house every day in the year;
Now a narrower house holds his bosom of fire,
And cold is the hearth of the jolly old Squire,

The jolly old Squire,
The jolly old Squire,
And cold is the hearth of the jolly old Squire,

The jolly old Squire was as staunch as a hound,
And gayer he seem'd, the more broken the ground,
Neither yawner nor rasper could make him delay,
As, mounted on Druid, he roar'd "hark away!"
The first in the field, and the last man to tire,
His hunting is over, the jolly old Squire,

The jolly old Squire,
The jolly old Squire,
His hunting is over, the jolly old Squire.

When the brush of sly reynard, the coveted prize,
Was display'd at his table, joy danc'd in his eyes;
He quaff'd his good wine, and he sang his good song,
And the shouting that follow'd was cordial and long:
In chorus we join'd, an unanimous choir,
But loudest the voice of the jolly old Squire,

The jolly old Squire,
The jolly old Squire,
But loudest of all was the jolly old Squire.

We were hunting the fox on a lowering day,
With the Squire spurring us on his high-flying grey:
No surer foot bounded o'er hillock and dell,
But the fates were in league, and the gallant grey fell:
We knew that the rider must shortly expire,
And drew up our reins round the jolly old Squire,

The jolly old Squire,
The jolly old Squire,
We drew up our reins round the jolly old Squire,

"What the deuce do you stay for?" we heard him
exclaim;

"My sporting is spoil'd, but should your's be the same?
They're o'er-running the scent—Trusty Will! turn the
pack;

A plague on the fall that laid me on my back!
Fox-hunting for ever!" he shouted with fire,
These were the words of the jolly old Squire,

The jolly old Squire,
The jolly old Squire,
The very last words of the jolly old Squire.

[*Spirit of the Times*—an American Sporting Paper.]

THE CENTRAL SOCIETY AND THE TENANT-FARMERS.

SIR,—You did me the favour to insert in a former publication, a few observations on a letter of Mr. Poppy's, which appeared previously, stating it as his opinion, that the "Central Society ought not to be dissolved;" and adding, "such I believe to be the wish of the tenant farmers of this county." By an error either on my part, or that of your compositor, this sentence was omitted in the quotation, though the principal part of my observations were directed against it. I should not have troubled you at all on the subject had Mr. Poppy contented himself with stating his own opinion respecting the Central Society. But as he stepped forward and represented the tenant farmers as wishing for the existence of that society, I felt compelled in justice to myself, and a large portion of that body who think for themselves, and look at things with their own eyes, to denounce the statement as unauthorized. Mr. Poppy in replying, has stated somewhat dogmatically, "that for every individual tenant-farmer's opinion that *he* knows *I* may know an hundred." This is not exactly saying that a proportion of ninety-nine out of a hundred wish for the existence of the Central Society. But if he intends to insinuate that such is his meaning, I beg leave unequivocally to state that he is mistaken.

Mr. Poppy with a suspicious sensitiveness has taken to the Ashbocking Club, the charge of Tory influence, which was made against the associations. A re-perusal of my former letter will satisfy any one, that no charges whatever were brought against any of the clubs. I had been repeatedly told they were established to discuss and elucidate practical subjects; and I looked upon their existence as "evidence" condemnatory of the political principle and party practices of the other "societies," considered either as exclusively "protective," or assuming to be protective and practical, and "*wished them every success*." Since, however, Mr. Poppy's reply has appeared, and we have the constitution of the Ashbocking Club from authority, I find I have been deceived in the representations made to me; and, that, *that club* lays claim to the epithet "protective;" that is as I understand political. And so I suppose Mr. Poppy understands it, for he advises the "*Aristocracy to be prepared to support the political interests of agriculture, backed by a large portion of the tenant-farmers*." Mr. Poppy continues, "the resolutions drawn up for the Ashbocking Club were *decidedly and solely for protection and relief from taxation*." "The Yoxford Club and the Harleston have adopted the same resolutions." "And there is no difference between the recently established clubs so far, from those of the Framlingham and Ipswich societies;" then comes the following conclusion, "thus I think I had sufficient authority to state that the Suffolk tenant-farmers wished the Central Society to be upheld." I freely admit the Framlingham Society to be a legitimate offspring of the Central Society, and that it sent its delegates to London in due form. I admit also its meetings here were characterized with as much energy in wrangling as any body of landlords could desire, who wished to find pretences for keeping up their rents. But I ask Mr. Poppy whether he considers these clubs as epitomes of the Framlingham Society, whose proceedings were much of the same nature as the furniture stowed in the paradise of fools,—

"Abortive, monstrous, and unkindly mix'd;"

and whether the "sayings and doings" of the Ashbocking Club are to resemble those of its prototype? Do the tenant-farmers in becoming members of these clubs, understand they are committing themselves to the proceedings and principles of the Central Society? If they do, what are they but political clubs? If they do not, how can the existence of these clubs be considered as "authority" for Mr. Poppy's assertion;—"that the tenant-farmers wish the Central Society to be upheld." The Ashbocking Club was formed "*decidedly and solely for protection and relief from taxation*." The Yoxford and Harleston adopted the same resolutions. Mr. Poppy tells us. But what I can gather from their pro-

ceedings, would seem to indicate *their* energies to be directed in a more beneficial way. The Yoxford shall speak for its self by one of its *own* resolutions, read at the last committee meeting of the Central Society, "that it would be highly desirable and beneficial to the cause of agriculture, that a central association should be formed on the basis of the principles adopted by the Highland Agricultural Society of Scotland, for the purpose of collecting and disseminating all information by means of correspondence with the local agricultural societies or otherwise, which may conduce to the advancement and improvement of *practical agriculture, apart from any political or party objects.*" If Mr. Poppy can discover in the above resolution any anxiety in the members of the Yoxford Club, for the existence of the present Central Society, he can see further into a millstone than I can. But what is obvious to any one, is, by implication the "objects" of the Central Society are considered "party," and "political," and not "practical agriculture;" or why does it wish for the establishment of another? At all events the resolution repudiates the supposition, that the Yoxford Club is formed "decidedly and solely for protection and relief from taxation." The constitution and proceedings of the Harleston Club I shall give as they are described by your correspondent "Mercator," who was present at one of its meetings, "I understand," he says, that political subjects are totally prohibited, the objects of its members appear to be, mutually to impart the result of their practice and experiments." I certainly should not in my simplicity have expected such results from a society, who had adopted for its basis, "resolutions drawn up *decidedly and solely* for protection and relief from taxation." Looking at them, however, as practical farmers, I certainly think they have adopted the most reasonable mode in which knowledge is likely to be made subservient to their interests. But I cannot discover any community of feeling between them and the Framlingham or the Central Societies.

After all, Sir, the simple question is, what is the interest of the tenant-farmers, and how can it be best promoted? I consider it a fundamental principle that they should seek to bring out the productive quality of the soil they cultivate. Prices are of course an important consideration with him. But as landlords now seem disposed to seize every opportunity to increase their rents, if prices advance, high prices might enrich the landlords and add but little to the tenants' gains. While by adding suitable manure to his land to increase the produce,—a judicious selection of his stock for rearing and fattening—the most economical mode of keeping his working stock; are subjects on which his energies can be employed to advantage. And when societies can be formed to facilitate his inquiries on these points, it becomes at once his duty and interest to give them his support. But looking at the relative situation of landlord and tenant in respect to rent and prices; I assert, that societies formed "solely for protection and relief from taxation" though in themselves may be just and proper, as political societies for aught I know, are false guides, and are calculated to delude and divert him from his true interest as a practical tenant-farmer. Mr. Poppy tells us, the members of the Ashbocking Club read "Blacker on Stall Feeding;" the 'Farmer's Magazine,' and plant small patches of newly introduced seeds and roots," &c. But he evidently looks upon this department as a minor consideration only; as a sort of decorative garment in which the club appears somewhat more attractive to practical men. Should however the members from reading "Blacker" purchase and fatten stock; if from reading the "Farmer's Magazine," instead of "planting small patches," they apply to their fields the sound practical instruction there given respecting the value and application of manure, course of cropping, &c. In short, if those who aspire to guide others see clearly their own way, and become justly conspicuous by the superior management of their own occupations; as Mr. Poppy has located *me in his neighbourhood*, instead of accepting his invitation to the club, I may perhaps peep into their inclosures, and witness with my "own eyes" the extent and result of their practical measures. And I shall not hesitate, if it becomes my duty

to award them my meed of praise and to the utmost of my capacity imitate their good examples.

With my best thanks Mr. Editor, for the liberal and sound views, you have uniformly inculcated in your leading articles, in regard to the position and interest of the tenant-farmers, I take my leave of Mr. Poppy and the "Ashbocking Farmer's Club."

Yours, &c., A TENANT FARMER.

Near Ipswich, Suffolk, April 9.

P.S. My letter was written when your last paper appeared. And I was glad to find by a postscript to the letter of your correspondent "Rusticus," that he approves and confirms my views respecting the societies.

IMPORTANT JURY TRIAL TO SHEEP FARMERS.

EDINBURGH, March 27, 1836.

This day the following issues, which excited considerable interest, as involving a question of importance to Sheep Farmers in the Highlands, came on for trial before Lord Mackenzie and a Jury.

"In the cause in which Captain Allan Cameron, residing at Morinish House, in the Island of Mull, is pursuer; and Mrs. Marianne Douglas McLean, Clephane of Torloisk, and Alexander Shiells, her factor, are defenders.

"It being admitted that the defenders let in lease to the pursuer the farm of Ensay, for the period of three years, from Whitsunday 1832, to Whitsunday 1835, and agreed to take from the pursuer, at a valuation, the sheep stock on the said farm, at the end of the said lease, in terms of the missive letter, dated 24th May, 1832, No. 21 of process.

"1. Whether the defenders wrongfully failed to take the sheep at Whitsunday 1835, in terms of the said letter, and pay the price of the same, to the loss, injury, and damage of the pursuer?

"2. Whether, on or about the 10th day of July, 1835, the defenders wrongfully drove from the said farm the sheep stock then pasturing on the same, to the loss and damage of the pursuer?"

Damages laid at 800*l*.

The facts were shortly these.—At the expiry of the lease at Whitsunday, 1835, the sheep stock of Ensay, amounting to 645, were sorted in the usual way, and tendered for delivery to the defender Shiells, who rejected the same, on the allegation that the pursuer had mixed up with, and tendered for delivery as the stock Ensay, the sheep stock of other two adjoining farms. The pursuer, thereupon, applied to the Sheriff by petition to have the defenders ordained to take delivery of the stock, and for an interdict to prohibit them in the meantime from ejecting the sheep from the farm. Pending the litigation in the Inferior and Supreme Courts, the defenders on the 10th July, 1835, ejected the whole sheep and lambs from the lands. The present action was brought to recover the loss and damage occasioned to the pursuer by having a stock of ewes and lambs thrown suddenly on his hands in the month of July, instead of being taken at a valuation at the preceding term of Whitsunday, whereby, to prevent their entire destruction, he was obliged to place them on his other farms, to the general deterioration and damage of his stocks.

The pursuer adduced a variety of witnesses, from whose evidence it appeared, that he kept the farm of Ensay exclusively under a sheep stock, while his adjoining farms were pastured solely by black cattle; and that though the stock of Ensay, like all other sheep, occasionally trespassed beyond their own bounds upon these farms, they still were to be considered and dealt with as the proper and ordinary stock of the farm of Ensay, and in number no more than it was perfectly capable of maintaining. Mr. Cameron of Corryhoillie, and Mr. Smith of Glenevis, who had inspected the farm, and are well known in the Highlands as extensive and skilful

sheep farmers, deposed to its capability of maintaining between 700 and 800 sheep.

The defenders likewise adduced a number of witnesses, and endeavoured to show that a portion of the sheep had habitually grazed on the adjoining farms; and that, therefore, they must be considered as the stock of these farms, and not that of Ensay.

Lord M'Kenzie charged the jury, and went over all the evidence, which, his Lordship remarked, was very contradictory. After retiring for a few minutes, the jury returned a verdict, finding for the pursuer on both issues, 2 25*l.* of damages.

ESSEX QUARTER SESSIONS—APPEAL COURT.

On Wednesday, April 11, the Court opened for hearing appeals before J. M. Leake, Esq.

IMPORTANT CASE UNDER THE ACT TO REGULATE PAROCHIAL ASSESSMENTS.

THE PARISH OF GREAT BADDOW, AGAINST A DECISION OF MAGISTRATES IN PETTY SESSION.

In our paper of the 23rd ult., we gave a report of proceedings before the Chelmsford Petty Sessions, on an appeal by Mr. Matson, of Great Baddow, against an assessment of that parish, made under the Act, 6, 7, Wm. IV. cap. 96. Mr. Matson complained of being over-rated, and was desirous to show that the rate was unequally made. On that occasion the Magistrates would not hear evidence on the ground of inequality, as the Act precludes any appeal on such a ground. It specifically enacts that "No rate for the relief of the poor in England and Wales, shall be allowed by any Justices, or be of any force, which shall not be made upon an estimate of the net annual value of the several hereditaments rated thereunto; that is to say, of the rent at which the same might reasonably be expected to let from year to year, free of all usual tenants' rates and taxes, and tithe commutation, rent-charge, if any, and deducting therefrom the probable average annual cost of the repairs, insurance, and other expenses, if any, necessary to maintain them in a state to command such rent."

Mr. MATSON, was assessed at 158*l.* and after a discussion of five hours, the Magistrates in Petty Session ordered his assessment to be reduced to 147*l.*

Against that order the parish officers appealed, and on Wednesday the appeal came before the Court of Quarter Session.

Mr. KNOX and Mr. TURNER appeared for the appellants, and Mr. Matson conducted his own case.

Mr. KNOX, in addressing the Court, said, that before the passing of the Act in question, the practice was to set out one piece of land as a standard, by which the other lands might be valued, which caused a variety of opinions and differences; but this Act removed that difficulty, by enacting that the sum at which property was assessed should be that at which it "might reasonably be expected to let from year to year." There were informalities in the preliminary proceedings, on the part of Mr. Matson, which might have been urged, but the parish officers did not wish to gain a victory on such a ground, they being very desirous to meet the matter on its real merits. Mr. Matson would conduct his own case, which he (Mr. KNOX) considered beneficial to that gentleman, because the knowledge which he possessed on the subject was much greater than could be possessed by the gentlemen of the bar. For his clients he should call witnesses, who also were men of great respectability, knowledge, and experience. The first would be a surveyor, who had had peculiar opportunities of forming a correct opinion of the value of Mr. Matson's farm, which no other person could possess. He had not merely once gone over the farm, but he had repeatedly been called in to value the land; and the

crops had been repeatedly submitted to his close scrutiny, and he had seen the land under the management of different tenants. He was a man of acknowledged general judgment and experience; and it would be shown that Mr. Matson himself had seconded a motion in vestry made by Mr. Matson, that Mr. Baker should value the parish. The case would also be supported by some of the most respectable surveyors of the county. The pecuniary amount depending on the decision of the Court was only 11*l.*; but if the decision of the Petty Session was confirmed, the effect would be, that it would make between two and three hundred persons dissatisfied with their rating, who were now satisfied with it.

Mr. Matson then addressed the Court, and stated that he was only anxious to obtain justice at as cheap a rate as possible. His complaint was, that seventeen other persons in the parish were under-rated, and his appeal was only a part of his case. He should show that those persons were under-rated—some of them one-half and some two-thirds. He had repeatedly offered to refer the question to any respectable persons, but his offer had been rejected. If the Court decided against him, he should proceed with the other parts of his case, and the whole would take four years and a half to settle. Here a long discussion took place between Mr. Matson, the Court, and Mr. Knox, on the line of proceeding which Mr. Matson proposed to adopt on the present occasion, he wishing to raise the question of inequality; but the Court decided that he could only be heard on the ground that the sum at which he was assessed was not "the rent at which the same might be let from year to year."

The following witnesses were called for the Appellants:—

Mr. ROBERT BAKER.—I am a land-surveyor, and have been so twenty years, on my own account. I served my apprenticeship to my father. I know Mr. Matson's farm at Great-Baddow; I remember it in the occupation of Mr. Bird. On the 15th of November, 1830, I made a valuation of the crops and farming stock. There are 219 acres in the farm. It was at that time not in a good state, and had been badly managed. According to the statement of the men, there were 52½ qrs. of wheat, at 3 qrs. per acre; 24 of barley, at 3 qrs.; 9 of oats, at 5 qrs.; and 12 of beans, at 4 qrs. I made the value of the wheat at 2 qrs. 6 bushels per acre, of which 50 qrs. were thrashed, and 93 qrs. to be thrashed, at 70s., besides 3 qrs., in sacks—511*l.*; 72 qrs. of barley, at 40s.—144*l.*; 45 qrs. of oats, at 25s.—56*l.* 5s.; 50 qrs. of beans, at 30s.—75*l.*; 16 loads of hay, at 55s.—44*l.*; total 830*l.* 5s. Then there were 18 loads of mangel wurzel and Swede turnips—10*l.* 16s.; hay and oats of that year's crop consumed—21*l.* 15s.; feed of pastures and clovers fed by stock then on the farm, consisting of 13 cows and heifers, and some pigs—80*l.* This, with the former total, made the sum of 942*l.* 16s. I took the market prices of the day; my object was to take them rather under than over. The rent of the farm at that time was 250*l.* After Mr. Bird, Mr. Barnes occupied the farm. I made the valuation with Mr. Milburn; I acted for Mr. Barnes; that was the 3rd of August, 1831, Mr. Milburn and I agreed in our valuation. Mine was 50 acres of wheat, at 2 qrs. per acre—325*l.*; 20 acres of oats, at 3 qrs. 4 bushels—87*l.* 10s.; 18 acres of barley, at 2 qrs. 4 bushels—89*l.* 5s.; 10 acres of beans, at 4 qrs.—60*l.*; 3½ tares—25*l.*; 29 loads of hay, at 50s.—72*l.* 10s.; after-grass on 15 acres—7*l.* 10s.; the feed and keep of live stock and horses, including turnips, grass clover, &c.—120*l.*; total 786*l.* 15s. There were 41 acres of fallow. That was the worst crop I ever saw on the farm; it was a very wet season. The rental of the farm in 1831 was 220*l.* There were 187 acres of arable, and 29 of grass. I do not know that there was any variation when I valued for the assessment. I valued the crops between Mr. Barnes and Mr. Greenwood on the 27th of July, 1835. Mr. Matson soon after hired it. I valued for Mr. Greenwood, and Mr. A. Offin for Mr. Barnes. We agreed in our valuation. There was then 44 acres of wheat ready for harvest, which I valued at 40s. per qr.—298*l.*; 34½ acres of oats, at 21s.—138*l.* 12s.; 29 acres of barley, at 28s.—179*l.* 4s.; 79 loads of hay—

237*l.*; feed on the farm, 29*l.*; crops in the garden, 2*l.* 10*s.*; total 884*l.* 6*s.* Turnips, cabbages, and mangel wurzel, with the use of pastures and yards during the winter, 1834-5 in the current year, and sold to Mr. Crooks—120*l.*; the feed of the horses through the summer months, 20*l.*; the total was 1,024*l.* 6*s.* In 1836 I was employed to value for the parish; it was early in the spring. Mr. Mason and Mr. Matson called at my office in Chelmsford, with a proposition in writing, to which I acceded. In consequence I valued Mr. Matson's farm. I had been over the crops two or three times, besides what I have mentioned. Before I went into it I was told Mr. Matson was so well acquainted with his farm, that I should take it as a standard for the others. The valuation of 187 acres of arable land, at 12*s.* per acre, 112*l.* 4*s.*; 21 acres of grass, 27*l.* 6*s.*; meadow land, 7*l.*; 3 acres and 1 rod of wood, 1*l.* 10*s.*; house and 2½ acres of land, 30*l.*; and about 2½d. per acre for odd perches of arable land, 2*l.*; total 184*l.* In the autumn of 1837, I was directed by the parish officers to value the parish under the new act; I then found I had made an error of one field I marked as grass in the map, which in fact was arable; I took off 4*l.* and reduced the whole farm to 180*l.*, that was the gross value. In 1836 I took what I considered to be the actual value. I made no alteration in 1837. I believe the value in 1837 was equal to that in 1836. I deducted 22*l.* for repairs and insurance. The farm is worth 180*l.* to be let, and has been so at any time I have known it; it is heavy land—good wheat and bean land; it will grow mangel; I have seen on it some of the best turnips and cabbages in Essex. The land would grow 3½ qrs. of wheat, with proper cultivation; about 5 qrs. of oats and barley. The farm is about four miles from Chelmsford; it is well situated; there are two roads that approach the house, and one road through the farm. I was spoken to by Mr. Greenwood about letting the farm; he said he would not let it under 200*l.* I had applications for it, but I referred them to Mr. Greenwood. One person (Mr. Symons, of Leigh's Hall) would give more than 180*l.*, but not 200*l.*—By Mr. Matson. I valued with Mr. Milburn for Mr. Barnes.

Mr. Matson cross examined Mr. Baker, to show that he had valued the feed twice over, thereby making an error of 120*l.*; but Mr. Baker showed it was only the current return of the farm of one year's produce. When you and Mr. Mason called on me, there was only a piece of paper, on which it was stated what the parish would give. I positively swear there was such a paper, when you were present. When I valued your property I considered I valued all the other property on the same principle. I do not know that Mr. Perry ever bid for the farm. I consider the cost for the cultivation of this land, to be 4*l.* an acre; that would include rates, and 8 per cent. on interest of capital, but without rent. I think a fair profit to a farmer is about 10 per cent. I mean after paying him for his time and skill. You cannot come to the profit by the acre. I do not think 10 per cent. enough, taking interest on capital and wear and tear; I should say 12 per cent. a fair remuneration. I took into consideration, in valuing the farm that you had a road of a mile and a half. There was not a field in the parish that I did not go into. Fences, as those on Park Farm, grow enough to pay for their own repair.

Abraham Offin.—I am a valuer of land at Hutton; I went over the farm, in 1835, to value the crops. (Mr. Knoss said the farm was bought by Mr. Greenwood for 5,550*l.*) Witness.—I agree exactly with Mr. Baker's statement, except the feed, which I know nothing about. The gross rental I made 186*l.*, and deducted from it 23*l.* for repairs and insurance. I was with Mr. Baker under the assessment valuation: Mr. Baker only showed me the land, and I went by my own judgment. There is a difference in the arable—I have it from 7*s.* to 21*s.* an acre; for grass, from 2*s.* to 40*s.* I saw Mr. Matson just before he took the farm; I told him it would answer his purpose to take the farm, as I thought it worth the money. I had some idea of taking it for my nephew; I would have given about 180*l.*: Mr. Greenwood said he wanted 200*l.* I took into consideration the keeping up the line of road. A house would not be so valuable

with a soft road to it, as a hard one. I valued the house and premises at 31*l.* I have made an extra fence against a neighbour rather than go to law. I do not think that the keeping up of a fence of a mile and a half would be much expense. When I take the produce of a farm from Michaelmas to Michaelmas, I include the green crop of one year. The green crop of 1834 has no right to be introduced into 1835. I never valued a green crop of one year into another year.

Mr. Surridge.—I have been a land valuer seven or eight years, and reside in the county. I went over this farm last Saturday—over every field. I calculated a fair gross rental, 184*l.* 8*s.* I think there would be no difficulty in letting it at that. I deducted 23*l.* 8*s.* for repairs and insurance, making the net value 161*l.*; I reckoned 13 per cent. as a fair rate: the same per centage does not apply to all cases. Cross-examined: I never had been over the farm before; I did not notice that there had been much money laid out in improvement; I think it to the tenant's advantage to keep the road in repair; I do not think that keeping the hedges of the road in repair is much expense; I was told that you made the road a hard one.

C. C. Parker, Esq.—I have been over the whole of the farm with Mr. Matson; it has a greater value for being near Chelmsford, and having a respectable residence. I valued it at a gross rental of 180*l.* a year; that is a fair rental for it; I take a different view of the Act to some people with reference to the deductions in this case. The Act allows a deduction for repairs and insurance from the gross rental as pertaining to the landlord; but the tenant in this case keeping the premises in repair, is equivalent to an increased rent, and therefore he is not liable to the deduction for such repairs, unless an increased rent is calculated upon to meet them. The Act in this case gives the landlord 180*l.*, minus 18*l.* for repairs. I should not recommend a landlord to let it for less; I agree with Mr. Offin as to the feed.

Mr. Jonathan Lewis.—I am a land-surveyor, living near Ongar, and have been a surveyor 30 years. On the 10th of March I went over this farm, field by field, with Mr. Symons and Mr. Hance. I consider a fair gross rental to be 186*l.*; I allow for repairs and insurance 24*l.*—rather more than ten per cent.—because the outbuildings were not in a good state, which made the net rent 162*l.*; that is the rateable value. Cross-examined: I received my instructions from Mr. Baker; he gave me a list of your farm and others, and stated what they were rated at, and at the same time said, "Don't let that bias you." Re-examined: I followed my own unbiased judgment.

Mr. Frederick C. Hance, of Langford. I went over the farm; my opinion of its value is, that it is worth 186*l.*, and I take off 24*l.*; I have been sometime in business; I do not think that any deduction ought to be made for the fences.

Mr. Hugh Symons, a land-surveyor, living at Leighs Hall, went over the farm field by field, and he agreed as to the value with the two last witnesses, and deducted 23*l.*; the fence was no detriment to the tenant; the growth of the wood would maintain the fence. Cross-examined, it would not make the hedge nor the ditch without men; I think I could get it made for nothing, if there was enough wood grown in the hedge. The farm was offered to me, but never under 200*l.*; I declined it at that. A hedge, in 7 years, might grow so much as to injure the land a little, by overshadowing it.

Mr. T. Dowson, of Moor Hall, Writtle.—I went over the farm with Mr. Barnes. I am a farmer. I consider it worth 200*l.* a year. Mr. Barnes gave 220*l.*; the average produce of the wheat was from 3 qrs. to 3½ an acre, the quality was good. From Michaelmas 34 to March 35, the turnips, cabbages, &c., fetched 120*l.* Mr. Crooks paid me that money. Cross-examined: a great part of it was used on the farm. It was not a profitable concern.

Henry Barnes.—I was once tenant of the farm and went into it at Michaelmas 1831. I had 50 acres of white wheat, and 12 acres of rivets; the white averaged 3 quarters and 2 bushels, and the rivets 4 quar-

ters ; there were 34 acres of beans, 4 quarters an acre. I had no barley or oats ; 45 acres were in fallow. I had some of mangel, 18 acres of part sowed with clover and part with tares ; next year the wheat averaged 3 quarters an acre. I had beans not so good as before ; straw was very good ; part of the turnips were eaten by the fly. The third year I had red wheat 66 acres : that averaged three quarters. The barn field was sown with red wheat, it averaged 4½ quarters ; I kept 150 sheep, and 10 bullocks ; they were fed on the farm and on its produce. The fourth year Mr. Greenwood took my crops : Cross-examined : 1832, 33, and 34, were dry seasons, and favourable to bad crops of that description. I have stated that I did not get my money back by the crops, which I took under the valuation of Mr. Baker ; I may have said I lost 200*l.* by them ; that year there was a mildew ; I took the farm at harvest. Re-examined : it was not the farm's fault I did not do so well as I might ; I would be glad to take it again to-morrow at 180*l.*

William Dawson.—I am a labourer, and worked on the farm a year and a half, under Mr. Barnes ; I remember the harvest of 1829 ; I thrashed the wheat ; it was three quarter an acre.

Mr. Andrews.—I remember the tenant Mr. Green ; I was eight years old when I went on the farm ; I stopped eight years ; I have never thrashed there ; the usual growth on the farm was three quarter an acre. Cross-examined : I am 51 years of age ; it is 35 years since I knew anything about it. Re-examined : Have lived close to the farm for twelve years ; I can see the ten acre.

Mr. TURNER then addressed the Court.

The Rev. J. Bramston, vicar of Baddow, verified the minutes of proceedings on various occasions at vestry meetings. One of the entries was a minute of the 21st of December, 1835, stating that Mr. Mason proposed, and Mr. Matson seconded, that Mr. Baker should make a valuation of the parish ; and that those gentlemen were requested to communicate with Mr. Baker on the subject. In answer to a question from Mr. Matson, the rev. gentleman said that Mr. Matson had several times expressed a wish to have the business referred, but it did not seem to come in such a way that the parish could accede to it. We understood Mr. Bramston to say that Mr. Matson wished to have the rating of the several properties that had been let since the making of the assessment, and regulating his assessment by those.

Mr. Matson was about to read a letter which he had received from Mr. Baker, but the Court would not allow it to be read, as it had really nothing to do with the present case. He then observed that the Petty Sessions had refused to go on with his other cases.

The CHAIRMAN said the Court had nothing to do with the Petty Session having so refused.

Mr. Matson then called the following witnesses :—

—Flaxman.—Had worked 35 years on the farm ; had thrashed on it 21 years, and was at work on it now. The average growth of wheat on it on the 21 years was 2½ qrs. the acre ; of oats and barley together 3 qrs. He had called on Mr. Green that morning to resolve him on the subject, but he could not. A few peas and beans used to be grown on the farm ; the average of beans was 4 qrs. and sometimes 3 qrs. ; 2½ qrs. of wheat was more than the average of the last eight years. Nobody farmed the land better than Mr. Green. Cross-examined : He never sold any of his wheat, but had measured it after he had thrashed it. Mr. Green and he only settled once a year ; he used to chalk the money on the granary door, and knew how many acres were grown in a year ; if any one said the farm grew from 4 to 5 qrs. it was untrue. His wages were now 10*s.* a week ; he had had 12*s.* and 15*s.* at times. He had worked some time for Mr. Matson. He did not know what crops Mr. Barnes had. He was on the farm in Bird's time, but did not know what he grew. He did not know that there were worse farms in the parish.

John Passfield, 57 years of age, had worked on the farm. When he thrashed wheat on it 71 acres pro-

duced 110 qrs. 1 bushel. The next year 55 acres produced 121 qrs. He had thrashed soft corn 5 years ; barley produced 3 qrs. per acre. Mr. Green farmed very clean—two crops and a fallow.—Cross-examined : Mr. Green kept 8 or 9 cows, but very few sheep ; 5*s.* an acre was the value of the land then. He now lived with Mr. Matson.

Mr. W. Gale had been a farmer nearly 40 years ; he now held 1,200 acres of land, and had left 600. He had been over the Park Farm, and first did so two years ago ; he had done so recently. He considered the arable land not worth more than 10*s.* an acre. He made a calculation of the cultivation and probable profit, and was surprised to find so little left. The arable was not worth 10*s.* without the house ; he set the rent of the house at 20*l.* ; the pasture at 20*l.* ; and the arable at 90*l.* ; making a total of 130*l.* He set the deduction at 25*l.* He considered the expense of making and keeping up the road to be from 10*l.* to 12*l.* a-year.—Cross-examined. It had been stated that the farm grew only 1 qr. 3 bushels of wheat per acre ; he did not say so at the Petty Session.

Mr. Samuel Baker had been a farmer all his life, and occupied about a 1,000 acres in Rocheford and Dengie Hundreds. His opinion of the value of the arable was that it was not worth more than 10*s.* an acre. The years 1832, 3, 4, 5, 6, were years much beyond the ordinary produce. He set the house at 20*l.*, and the deduction at 25*l.* or 30*l.* a-year. It was worth from 8*l.* to 10*l.* a-year, to make and keep up the road.—Cross-examined. He had no opportunity of knowing the produce of the farm.

Mr. Thos. Wagstaff had been a carpenter and builder 30 years, and had been over the premises. He thought that to keep them in repair in their present state would cost, with the insurance 48*l.* 5*s.*—Cross-examined. That would be his charge.

Mr. KNOX then replied to Mr. Matson's case ; in doing which, he commented on the respectability and acknowledged judgment and experience of the surveyors called on the part of the Apellants. He urged that though persons going to value property for a particular purpose might sometimes have a bias, that would not be the case with Mr. Baker, for he had valued this property at various times, and for various purposes ; he had valued both for the in-coming and the out-going tenant ; and one of the best recommendations of Mr. Baker was, that of Mr. Matson having joined in the proposition to employ him. His evidence was not of a speculative character and he gave reasons for all his opinions. He had stated the produce for three years, which, divided by three, gave more than four rents during the whole of that period. The evidence of Mr. Baker was also supported by the testimony of six surveyors, as respectable as any in the county. The learned gentleman then noticed the evidence of Mr. Offin, of whom Mr. Matson had this day spoken in the highest terms, declaring that he was sure Mr. Offin would tell no untruths. And could it be believed that Mr. Matson, who was universally admitted to be an excellent farmer, could only get such a small quantity of produce out of his farm as had been stated by his witnesses ? We often heard of witnesses being too good—that they go too far and overshoot their mark—and so far from serving their friends, doing them an irreparable injury ; and so it was with Mr. Matson's witnesses. This day, when Mr. Matson took his glass of excellent wine after dinner, with his friend Gale, he would say—"Friend Gale, you went a little too far you did me up. While you were giving your evidence I saw a gentleman on the Bench shake his head." (*Laughter.*) He hoped that though Mr. Matson's witnesses might retain that gentleman's friendship, he would not again rely on their accuracy of calculation. After noticing other evidence, the learned gentleman observed, that the testimony of Mr. Barnes, who had been an actual tenant, and was willing to give 180*l.* per annum for the farm, was very conclusive. Mr. Matson had said that he was entitled to urge the fact of inequality, but with that the Court had nothing to do. He would not say that Mr. Matson might not be

morally right on that point, and that there might not be inequality, but he was legally wrong in urging it. If there was inequality he was not compelled to sit down contentedly under it, but might appeal against the rating of each or all of the persons he had referred to; but it must be done on the ground that they were not assessed at the sum for which their several properties might reasonably be expected to let from year to year.

The Court, without hesitation, decided that Mr. Matson's assessment should be restored to the original sum—158*l.*; thus reserving the decision of the Petty Session.

This trial, which occupied several hours, excited great interest.—*Essex Standard.*

TO THE EDITOR OF THE MORNING HERALD.

SIR,—To encourage the growth of British grain and of all descriptions of British agricultural produce, is an object of almost universal interest to the community at large. Whether the corn laws of 1815, and the amendments which were made in them in 1827, were the best means practicable at the time for this purpose, it would be idle now to inquire. That they have been attended with numerous advantages, however, is beyond all dispute. The progress made in the science of tillage, and generally in the philosophy of agriculture during the last quarter of a century, has been most extensive. One acre of land at present in tillage produces at least one-third more, either in quality or in quantity, than the same acre did twenty-five years ago, and this beneficial change can alone be attributed to the protection which the existing corn laws have afforded to the cultivators of the soil. However oppressively these laws may have acted towards certain classes of British society, yet to them must be attributed the general advantage, in a national point of view, of the agricultural produce at home being now sufficient for the support of the people, although the increase in them during that period has been little short of thirty per cent. It is, therefore, not without much regret that all who are interested in the commerce and agriculture of the empire understand that an attempt is again to be made in the House of Commons to repeal these laws, of certain benefit to the empire at large, and to make a trial of the theoretical advantages of freedom in the corn trade amongst all nations. The arguments used for this purpose are more specious than substantial. All must certainly agree that an exchange of commodities is the real, and indeed the only basis of foreign commerce; for, to receive the surplus of products over their consumption at home amongst nations, forms the only permanent mercantile exchange which can occur amongst them; but then, since the year 1820, when by the union Ireland became an integral portion of the united kingdom, our mercantile position has undergone a most material alteration. Since that period we have become essentially an agricultural nation, and to adopt or sanction any measure such as the repeal of the corn laws, which would put a limit to agricultural improvement, would be in the extreme unwise, under the existing state of agriculture and of commerce. We are quite certain that no Irish representative in parliament will for one moment listen to any proposition of this description, the direct consequence of which would be to impede, if not entirely to place a bar to the farther improvement of his beautiful and fertile kingdom. The agricultural resources of that part of the empire are nearly boundless. From the banks of her numerous rivers, and from her many inland morasses, many millions of acres of arable land may be reclaimed; but the protection of the corn laws is necessary for the production of this most beneficial result. Similar observations are applicable to a great portion of Great Britain, for even here improvement is as yet only in its infancy, and protection is still necessary to bring it into that state of cultivation of which it is susceptible. From the immediate repeal of the corn laws no benefit can arise

to any class in British society which can be placed in the scale against the many evils which must attend an act so perfectly destructive to the present interests and future prosperity of agriculture as this one would be. Undoubtedly, for a few years, foreign grain, to the extent perhaps of one million sterling annually, might and would be imported, in exchange for an equal value in British mineral and manufactured commodities, which would be exported; but this would be only a very slight advantage, and would form no remuneration whatever to British manufacturers for the losses which they would sustain in the home market by the injury which the repeal of the corn laws would inflict on the agricultural interest. The consumption of manufactured goods at home would thereby possibly be so much reduced that the wages of manufacturing labourers might fall one-half under the present rates, and thus, so far from the repeal of the corn laws rendering them more comfortable for the future, it would entail on them the greatest distress. Should the improvement in agricultural pursuits be as extensive during the ensuing quarter of a century as it has been during the last, the corn laws must from necessity abrogate themselves, and the commercial and manufacturing interests of the united kingdoms are perfectly awake to the advantages which, in this point of view, the corn laws must eventually confer on themselves, and they therefore desire not any alteration in the corn trade which may be hurtful in any degree to the proprietors and cultivators of the soil, or may in any manner tend to deprive them of their just expectations of future advantages, arising from the rapid progress now making in agricultural improvements. The trading interest is fully aware that to promote and extend the means for agricultural improvement, as far as the protection of the existing corn laws are capable of carrying it, must eventually tend to the extension of our foreign commerce. They calculate, with every appearance of truth on their side, that, under the existing principles of the corn laws the time is not far distant when their ships, their capital, and their mercantile experience, will receive, at all events, partial employment, in the exportation of British and of Irish grain, and of flour manufactured from British wheat, to the United States of America, to all our West India possessions, and to the new and rapidly-rising communities in the western world. That the united kingdoms, under fostering laws and proper protection, must become, and that perhaps sooner than is generally expected, a great corn-exporting nation, is no very extravagant speculation, and the Marquis of Chandos, therefore, by his zealous advocacy of the British and Irish agricultural interests, is conferring signal benefits on the inhabitants of the British empire. 1. M.

John's Coffee House, Cornhill, April 4.

DUCKS.—The most hardy, and the best flavoured, is the large dark variety. Ducks lay eggs only in spring (unless by chance a second brood is brought out in the autumn), and it is advised that when they have laid more than the required number, they should be watched and allowed to sit. A pond is not necessary for ducks, if a large shallow tub be sunk in a corner of the farm-yard, so that the old birds may wash and dip themselves; indeed, young ducklings should not be allowed to go to a pond for the first six weeks, as they get cramped if long in the water. Their food when young should be barley and meal made thick, and several saucers of garden-pots, or other shallow vessels, filled with water, placed near their coops. As they become nearly full-grown, one of their three daily meals should be dry oats thrown into a pan of water. Coops of domestic poultry should not be set on grass, as heavy dews frequently prevail, and all damp is very prejudicial to young birds. If they can be admitted to a field or orchard by a small opening in the fence, for a few hours in the day time it will be good, but a dry yard will be found the best place for them. Ducks do not injure a garden by scratching, like chickens.—*Magazine of Domestic Economy.*

ROYAL DUBLIN SOCIETY.

PROFESSOR DAVY'S LECTURES ON AGRICULTURAL CHEMISTRY.

On Monday, the 19th March, Professor Davy commenced a Course of Lectures on Agricultural Chemistry, to a numerous and very respectable auditory, among whom we noticed nearly the whole of the Superintendents of the National Schools, together with the greater number of the Masters at present in Dublin. Mr. Davy referred to the future prospects of the Dublin Society, arising out of the late parliamentary inquiry by a Select Committee of the House of Commons. That committee, he said, was composed of members who differed widely in their political opinions, yet they were all united in a desire to make the Society a truly National Institution, of which Ireland may be justly proud; and they have proposed to place the society on such a footing as will entitle it to the entire confidence and support of the public, and render it, more fully than it has yet been, an instrument in aiding the education of the people, and the improvement of the country. It is their desire, that the society should be considered as the great Central Association for the diffusion throughout Ireland of a knowledge of practical science, and of all improvements in agriculture, horticulture, and the arts; and that it should place itself in communication with all local societies founded with a view to similar objects, affording to them assistance, encouragement, and information, and receiving from them, in return, periodical reports of their proceedings. They propose to increase the efficiency of the society in every department—that the lectures be rendered more generally useful in the metropolis, and extended to provincial towns; that the Botanic Garden should be made as much as possible a school for native gardeners, thus making the country in this respect independent of Scotland; that the society's buildings should be extended, and a National Museum formed, adequate to the public wants; that measures be taken for securing increased activity and efficiency in the management of all the schools; and in order to carry those beneficial measures into effect, that additional parliamentary grants be made to the society. Mr. Davy illustrated the difference between mechanical and chemical changes in bodies, on which are founded those great departments of science, mechanical philosophy and chemistry; and after stating the boundaries of each, so far as they can be limited by definition, he, for the benefit of the uninitiated, went through a number of the most common chemical operations. He then pointed out the three branches of science which are particularly calculated to assist the progress of agriculture, namely, mechanical philosophy, botany, and chemistry. He adverted to the rapid progress of agriculture in the United Kingdom, and especially in England and Scotland, within the last few years; and referred much of the benefit to the establishment of Agricultural Societies, which tended not only to excite a spirit of honourable competition among the gentry, which is most beneficially felt in their respective districts, but also to awaken a more kindly and confidential feeling between landlord and tenant. The best examples of practical agriculture, he thought, were to be found among the most considerable landed proprietors, the *resident* noblemen and gentlemen of the country; because the character, the respecta-

bility, the comforts of a tenantry depend much on the conduct and intelligence of the landlords. However favourable the habits of the people, or fertile the soil, still the example, the fostering care of the landlords is wanting to secure the welfare and prosperity of the tenants. The Dublin Society, he said, was founded "for the promotion of husbandry and other useful arts in Ireland." For many years husbandry engaged much of the society's attention, and many interesting papers on the subject are to be found in the printed volumes of the Society's Transactions. When the late farming society of Ireland was formed, the care of the interests of agriculture was by degrees transferred to that body; but since its extinction, the society, which, in fact, never wholly lost sight of one of its legitimate objects, has in some measure been recalled to agriculture. Annual cattle shows have taken place at the society, and premiums adjudged, with a view to excite emulation, and improve the breeds of cattle—a subject justly deemed of no small consequence to the husbandry of the country. Premiums have also been offered for different objects connected with agriculture and rural economy. The learned Professor expressed his hope that the society will, under its new constitution, resume agriculture with a vigour in some measure proportionate to its paramount importance, and with every prospect of lasting benefit to the country. The application of the facts and scientific principles of chemistry to agriculture, is called the *chemistry of agriculture, or agricultural chemistry*. This branch of knowledge relates to the structure, organization, and growth of plants—to the substances of which they are composed—to the uses to which they are applied—and to their chemical constitution. It examines the nature and composition of soils—points out their uses, and the methods of improving them. It treats of the nature and composition of the atmosphere, and the influence it exerts on vegetables. It embraces the consideration of manures, the manner in which they become the food of plants, and the general principles with regard to their application and uses. And lastly, it elucidates the different methods by which lands may be improved, and affords principles which may serve as guides to the successful practice of agriculture. The Professor exhibited a number of soils collected from different parts of Ireland—pointed out particular earthy, alkaline, and metallic salts they contained—and experimentally illustrated the simple methods of detecting them.

The lectures are to be continued *every Monday*, to the close of the course.—*Irish Farmer's Magazine*.

ON PLANTING TREES.

SIR,—The neglect and mismanagement of planting in general in the country, whether ornamental or profitable, require something done, even to bring it on a level with the other branches of horticulture, floriculture, &c.; and a few articles, such as appeared in a former *GAZETTE*, and written by Mr. Major, landscape gardener, &c., would shew the necessity of such an important subject being better attended to; also the opinions of practical planters would do much good, inasmuch, as they would plainly show what is, and what could be effected.

New societies for the advancement of horticulture and floriculture, are often uniting with the

greatest success; but I fear little is doing for the advancement of arboriculture, if so, it would seem impossible that so many useless plantations and trees disfigure the face of the country; yet there are many practical proofs existing, where judicious planting and thinning have been done, and attended with the greatest success, both as to ornament and profit.

The Royal Society of Horticulture and Agriculture, I hope, will be the means of spreading some useful knowledge on this important subject; but it appears plainly, that it is not only for the want of practical knowledge, but in a great measure, through the inconsideration of landed proprietors in general on the subject, who doubtless, are the greatest losers, and who only have the means to remedy the defects.

There are also, some thousands of acres of forest or crown lands, some of which are in very bad cultivation, and some nearly waste; and I may add, a great extent of private property, which is useless, except for planting.

Sir, as you wisely inquire into all abuses and defects, this one requires some consideration; and if the attention of practical men could be drawn to the subject, it surely must tend to some good, as many hundreds of men would then find profitable employment, whom perhaps, now have none; a greater quantity of timber would be grown, and of better quality, likewise the scenery of the country much beautified.

I hope these desultory remarks may lead the way for further enquiry and improvement; and one which has forcibly took my attention, I will venture to assert. Much ground of late years has been planted in a great measure for the protection of game; and in many instances, all kinds of trees intermixed, when the soils would admit of them; they have in the course of ten or twelve years, become a complete mass of foliage, affording the greatest protection a plantation can do; so far the object has been obtained, as regards the cover at this period; but for the future, it is defeated in every respect, in a few more years, for the want of air and solar rays, the cover is completely exhausted, and the timber trees, most of them, ruined.

A plantation growing as above stated, would require a partial thinning at the end of eight or ten years (it is impossible to give any data when thinning or pruning should begin, it of course depending on the growth of the trees, or how many periodically taken out), but generally, the first thinning ought to commence in about that period, and continue till the whole of the trees attain a timber size; and also securing a good growth of underwood the whole time.

Many hundreds of plantations are ruined through these needful operations being neglected; three-fourths of the trees are useless; the remainder, through some accidental circumstances of having originally a vigorous constitution, and escaping numerous injuries and obstruction of growth liable through the neglect of culture, attain a timber size. The timber of these trees are often blemished by the stumps of dead branches having become embedded in the tree.

The same neglect is perceptible in ornamental planting; very few shrubberies are cultivated well, especially where timber trees are desirous in the shrubbery.

I think much information might be obtained in the course of years on this subject, if young gardeners, like myself, were to pay more attention to

it. Records of every tree planted, pruned, or felled, ought to be kept; also to what uses the timber is applied, their relative value would then be ascertained in every respect; this is the more required, as the planter can never hope to see the true results; but true records kept would benefit a succeeding generation. Yours, &c.,

JAMES BROWN,
Gardener to W. R. Cartwright, Esq., M.P., near
Brackley, Northamptonshire.

CHEAPEST AND BEST MANURE FOR GARDENS.

TO THE EDITORS OF THE NOTTINGHAM REVIEW.

GENTLEMEN,—It is always a source of peculiar pleasure to me, to see the occupiers of gardens repairing to them as soon as spring, with its cheering aspect, gladdens all nature;—one bearing in his hand the spade and the rake, to turn up the fresh soil—another carrying a collection of young plants, or the basket of potatoes, destined to afford sufficient “home grown” vegetables for the table—another with a choice collection of flower roots, from the gardens of the neighbouring florists,

“The daisy, primrose, violet darkly blue,

“And polyanthus of unnumbered dyes;

“The yellow wallflower, stained with iron-brown,

“And lavish stock, that scents the garden round.

* * * * *

“Anemones, auriculas, enriched

“With shining meal o’er all their velvet leaves,

“And full ranunculus of glowing red.”

THOMSON.

Yes, it is indeed refreshing to see the laborious and talented mechanic leave the machine or the frame for a time, and, with his wife and family, hastening to the spot that affords him such a source of innocent pleasure and pastime, during the spring, summer, and autumn; and would that every industrious mechanic had the opportunity of occupying a little space of ground for a garden! the result, both moral and physical, would be of great benefit. What can be more cheering for the man that toils six days in a pent-up room, amidst the smoke and effluvia of a densely populated town, than to visit the nicely trimmed garden, with its neat hedges, its closely shorn grassy bank—to observe the progress of the trees and flowers planted by his *own hand*—to breathe the fragrance of his *own spring flowers*—to pluck fruit from his *own trees*.

Sirs, it is lamentable that the large tracts of land which surround Nottingham, should be permitted to be in the state they do, when they might be appropriated to such beneficial purposes, as the health, morality, cheerful recreation, and profit of the people at large. It is a fact, that from Lammas until March, vast tracts are almost of no use at all, with the exception of the opportunity they afford the public of walking over them.

But to the point—the pleasure I have experienced in seeing the happiness produced by the garden system, has often been checked by observing the labour and fatigue occasioned by carrying heavy loads of manure. I believe, Sirs, this great draw-back may be, in a considerable measure, obviated—and I would urge all occupiers of gar-

dens to try the following plan :—BONE MANURE is considered, I believe, the best that can be laid upon land. Now I imagine, nearly every family who occupies a garden, would have sufficient bones from their own table, if carefully preserved the whole year, to manure a garden, and that too in the very best possible manner. The bones should, of course, be broken small. The effect of a small quantity of bone dust sown with peas, carrots, onions, &c. is quite surprising—the same may be said when small pieces are put into the earth when potatoes are planted. By this simple and economical system, we should dispense with the heavy load of manure in the wheelbarrow, and also with buying every spring, several shillings worth of manure. Trusting the hint I have thrown out to the occupiers of gardens may prove a source of profit, comfort, and pleasure to them.

CHRISTIANUS.

AGRICULTURE.

A LETTER FROM LORD WESTERN TO LORD RAYLEIGH, ON THE SUBJECT OF WHEAT SOWING.

FELIX HALL, March 30, 1838.—My Dear Lord, knowing how warm an interest you feel in any improvement in agriculture, and the attention you pay to any suggestions offered, or any communication made to you, of any experiment tried with that view, I am induced to address this letter to your lordship, to inform you of the result of a mode of wheat sowing, which differs from the practice of this neighbourhood, and which I have tried eight or ten years with great success, and the advantages of which are peculiarly striking *this* year, when the failures of plants are so prevalent; any person now may have ocular proof of it. I can show them one hundred acres of wheat, upon every acre of which I have a *sufficient* plant, I may say a *full* and thriving plant upon ninety of the hundred. It is a nice question at all times to determine cause and effect, but I have no doubt in this case that the superiority of my wheat plant to *most* of my neighbours this year (which will generally be admitted by them) is owing entirely to my mode of putting the wheat into the ground; I use the drill in rows, nine inches apart, and put in at least THREE BUSHELS per acre; I adopted the plan in consequence of what I saw at Holkham about eight or nine years ago, and the strenuous advice of my friend, the Earl of Leicester, and the example of himself and several of his very intelligent and experienced farmers, who joined him in urging me to this course. One old farmer, who occupied a very large farm under him, told me he had uniformly pursued that system above fifty years with the greatest success; he was of opinion that the quantity of seed was generally too small, of course the quantity should vary according to circumstances, but he was satisfied an increase of seed would increase the growth of the country most essentially. Since that time I have sown all my wheat in this manner, and I have had great crops, I may say quite equal to the best farmers around me. I by no means ascribe these large crops of wheat exclusively to this drill system, because the seasons have been so good, and I have farmed high. I confidently believe, however, that something is due to the system, and that this year has shown that great advantages are derivable from it in seasons and under circum-

stances that are unfavourable to the preservation of a good plant, the first object of every practical farmer, particularly on heavy land, whereon are so many failures. The general objection to the plan is, that the wheat will be too thick in the rows, that it will grow up without tillowing, and with many short ears. I do not, on experience, find this objection well-founded. I think the number of short ears to be found in this mode is not greater than in the wheat that has more room to tillow, and they are generally filled with good corn, full-sized grains. I hardly have heard any other objection made, and the advantages of the thick plant are many, some rather peculiar to this country; one considerable difficulty we have to encounter in our clay-bottom land arises from the tardiness of our early vegetation, which renders our early plants comparatively a more easy prey to vermin of every sort, such as the slug, the worm, &c., and bad ungenial weather; where there are any rabbits, destruction will often ensue in these lands, from the weakness of growth in plant, which would be overcome in warmer and quicker vegetating grounds; this remark, of course, does not apply to gravel-bottom lands, which are to be found in some few and limited districts. Now, it will be admitted, generally, that where the plant is thick, it will grow considerably quicker upon first coming out of the ground; the numerous blades seem to protect and keep each other warm, and the roots partly matted together get a better hold of the ground, so that they are not loosened by the biting off the blade, nor are they so loosened by succession of frost and thaw; they are by no means so likely to be *root-fallen*, which is productive always of the worst consequences when it occurs, and the mischiefs of which are peculiarly striking in many instances this year. I hope you will take the trouble to ride over my farms ere long, and see how the appearance of the wheat plants will bear out my reports of them; any person calling at Felix Hall or Rivenhall Hall, will, upon application to my bailiff or any workman on the ground, be shown the fields; they will see, also, I think, in the workmanship of the drilling, the good effects of an improvement I have made in the machine. I can drill with the heavy Suffolk drill, covering ten feet, or twelve furrows at a time, nearly, if not quite, as straight as is practised in the light lands of Norfolk and Suffolk,

I have the honour to be,

My dear Lord,

Your faithful and obedient Servant,
WESTERN.

To the Lord Rayleigh, &c., &c., &c.

THE ENGLISH YEOMAN.—“There is no class of men, if times are but tolerably good, that enjoy themselves so highly as farmers. They are little kings; their concerns are not huddled into a corner, as those of the town tradesman are. In town, many a man who turns thousands of pounds per week is hemmed in close by buildings, and cuts no figure at all. A narrow shop, a contracted warehouse, without an inch of room besides to turn in, on any hand, without a yard, a stable, or outhouse of any description, perhaps hoisted aloft, up three or four dirty pair of stairs, is all the room that the wealthy tradesman often can bless himself with; and there, day after day, month after month, year after year, he is to be found, like a rat in the hole of a wall, or a toad in the heart of a stone or of an oak tree. Spring and summer and autumn go

round, sunshine and flowers spread over the world, the sweetest breezes blow, the sweetest waters murmur along the vales; but they are all lost upon him: he is the doleful prisoner of Mammon; and so he lives and dies. The farmer would not take the wealth of the world on such terms: his concerns, however small, spread themselves out in a pleasant amplitude, both to his eye and heart; his house stands in its own stately solitude; his offices and outhouses stand round extensively, without any stubborn and limiting contraction; his acres stretch over hill and vale; there his flocks and herds are feeding, there his labourers are toiling; he is king and sole commander there; he lives amongst the purest air and most delicious quiet. Often when I see those healthy, hardy, full-grown sons of the soil going out of town, I envy them the freshness and the repose of the spots where they are going to. Ample old-fashioned kitchens, with their chimney corners of true projecting-beamed and seated construction still remaining; blazing fires in winter, shining on suspended hams and flitches. Guns supported on hooks above; dogs basking on the hearth below. Cool, shady parlours in summer, with open windows, and odours from garden and shrubbery blowing in. Gardens wet with purest dews, and humming at noontide with bees; and the green fields and verdurous trees, or deep woodlands, lying all around, where an hundred rejoicing voices of birds or other creatures are heard, and winds blowing to and fro, full of health, and life, and enjoyment. How enviable do such places seem to the fretted spirits of towns, who are compelled not only to bear their burthen of cares, but to enter daily into the public strife against selfish, evil, and ever-spreading corruption.—*Howitt's Book of the Seasons.*

ON SMUT IN WHEAT.

BY MR. JOHN DONALDSON, DONNINGTON PARK,
LEICESTERSHIRE.

(From the *Quarterly Journal of Agriculture.*)

The diseases of corn seem to have attracted the attention of the earliest writers on agriculture, and diseases similar to smut and blight in wheat have been mentioned by Pliny and Columella; and even at that early period, mixtures of water and urine, and a decoction of cypress-leaves, are recommended as specifics; and Virgil has mentioned the leys of oil. It is doubtful, however, if the diseases were exactly similar to those of our country, as the climate and other circumstances must have very considerable influence in altering, or at least in modifying, the appearance of the disease. It appears that both Italy and Sicily are subject to such diseases; and specimens of wheat from New South Wales, shew that much mischief has been done there by some similar affection of the plant.

Though no writer of note on the subject of rural economy has failed to state his opinion on the origin of the evil, it is doubtful whether any one of them has attributed it to the real cause. It has been long known to botanists, that the disease in corn called blight is occasioned by a parasitic fungus on the leaves, stems, and glumes of the plant. In the year 1767, Felice Fontana published an elaborate account, with microscopic figures, (*Osservazioni supra Rugino del Grano. Lucca, 1767. 8vo.*) More modern botanists (*Sowerby's English Fungi*, vol. ii. tab. 140, wheat, tab. 139, *Poa aquatica*), have given figures both of corn and grass affected by it, but they have not used high magnifying powers in their researches. The late Sir Joseph Banks published a very scientific account of blight, accompanied with plates explanatory of the different stages of the

disease, in which it is asserted, that the seeds of the fungus gain admission into the pores of the plant, and obstruct the circulation of the sap intended for the perfection of the grain. It has been long credited by farmers, that the barberry plant causes the blight in corn; and it is notorious to all botanical observers, that the leaves of the barberry are very susceptible of the attacks of a yellow parasitic fungus, the seeds of which may be transferred to the corn. But after all these researches, the cause of blight is ascribed to various agencies, for rust and mildew have been ascribed by very intelligent writers to atmospheric influence, over which human agency can have no control.

In regard to smut, Mr. Jethro Tull ascribed it to moisture, and recommended as a cure his favourite drill husbandry. M. Duhamel has enumerated at length the different opinions and experiments on the subject of smut, and concludes with observing, that smut powder is highly infectious, and recommends leys of lime, saltpetre, alum, verdigris, salt, and the ashes of plants. Dr. Hales, suspecting that it might proceed from injuries in the grain arising from bruises, made an experiment with bruised grains, which convinced him that that was not the cause. It has also been ascribed to damp weather during the period of flowering, in which the farina from the anthers may have been washed away. In the memoirs of the Bath Agricultural Society, it is remarked that smut is not produced by any infectious substance, or by the ova of insects that may adhere to the grain; as sound and smutty ears are found proceeding from the same root, and sometimes sound and smutty grains are contained in the same ear. It is hence inferred, that it proceeds from the want of due impregnation, in consequence of the farina fecundans becoming faulty, if putrefaction take place in the seed-corn when it dies. And this opinion is supported by the experiments of Spallanzani, who discovered that the seed is produced anterior to impregnation, which can only take place when the flower is open, and the dust of the anther fully ripe. It is therefore conceived, that for want of impregnation, or the vivifying principle, the embryo wheat corn may putrify, as in the case of the added eggs of oviparous animals. (*Darwin's Phytologia*, p. 323.) The inquiries of Mr. Somerville, in the second volume of Communications to the Board of Agriculture, are favourable to the opinion that the disease is occasioned by the attacks of an insect. Repeated experiments in rubbing sound grains with smut powder, convinced him that it is very infectious, and that washing is essentially necessary to avoid the infection. In the course of his researches, by using highly magnifying lenses, and by concentrating the light of the sun on the smut ball, by means of a concave mirror, he discovered that the specks on the balls were real insects, resembling wood-lice in shape. He then conceived, that when the smut powder comes in contact with sound grains, it adheres to them, and inoculates them, so as to render the plant incapable of producing anything but smut. It is not easy to comprehend how this takes place; and although his active and ingenious mind has advanced very plausible reasonings in support of his theory, yet his speculations have not materially advanced the knowledge of the real cause of the disease. Linnæus, Walker, and other naturalists, are of the same opinion, that insects cause the smut, and they are apparently supported by the circumstance of certain pickles being found to cure the malady. In order to bring Mr. Tull's allegation as to moisture to the test, M. Tillet planted a tuft of wheat in earth

kept very moist, and had not one smutty ear. He is of opinion, that it does not proceed from any inclemency of weather, or want of impregnation, because it takes place before the ears have appeared. M. Aimen contended that an ulcer, which seizes the blossom, causes smut, and agreed with some writers, that though smut powder is infectious, infection is not the only cause of disease, as wheat from the same ground, taken out of the same sheaf, and sown without steeping, produced sound wheat in some fields, and in others smutty. He is well assured, that it is not caused by insects, or by the wetness or dryness of the soil, or by any deterioration of the sap, as the rest of the plant is well formed. He thought that the grain might become mouldy in the soil, and produce smut. But it is difficult to conceive how this can produce smut, as, after the seed corn is exhausted, the plant no longer draws subsistence from it, and whether it die or not, seems of little consequence; or how mouldiness should destroy only the organs of fructification, without sensibly affecting the rest of the plant. Sir H. Davy is of opinion, that smut is produced by a small fungus on the grain, as the products it affords by chemical analysis are similar to those afforded by the puff-ball (*Lycoperdon*), and thinks that without the agency of some organized structure, so complete a change could not be effected in the constitution of the grain. Wolfius thought that smut proceeded from a monstrosity of the embryo; but this supposition has been refuted, as the male flowers of certain plants are affected by it, and flowers have no embryo. In the second volume of the *Museum Rusticum*, a correspondent observes that several black ears grow up among the wheat, and are detained too long in the hose, and by the natural humidity of the plant, a fermentation is produced, which destroys the small vessels, and renders their contents black, dry, and dusty—that these vessels burst, and the dust which is thrown off enters the stigma of healthy corns, and infects them. This theory may be ingenious, but it surely ascribes too precarious a cause to so certain a disease. Lisle, in his *Observations on Husbandry*, thinks that smut proceeds from a total want of sap at the root of the plant, and that the disease only overtakes the grain when it is well advanced towards fullness. The author of the *Yorkshire Farmer* maintains that smut is occasioned by worms, and that experiment clearly showed him that it is not infectious in the smallest degree. The result of a great number of trials on smutty wheat, gave Mr. Arthur Young little reason to think that the powder was the result of it. Ellis has enumerated no less than ten probable causes, and concludes that want of nourishment at the root may be the primary one. Dr. Home, in his *Principles of Agriculture and Vegetation*, says that smut arises from an over-abundance of juices, and it may be communicated to healthy grain, and may be prevented by pickling the seed. According to the analysis of Foucroy and Vauquelin, smut-ball contains:—1. A butyraceous, fetid, and acrid oil, about one-third of its weight. 2. A vegetable substance, about one-fourth or less, similar to putrid gluten. 3. A coal, about one-fifth,—a clear evidence of putrid decomposition. 4. Free phosphoric acid, in a very small proportion. Lastly, Phosphates of ammonia, magnesia, and lime, in the proportions of a few thousandths only. From this analysis no conclusions can be drawn as to the cause of the disease, or its contagious nature.

The author of the *New Farmer's Calendar*, after a great deal of superfluous reasoning on the subject, thinks that smut is the highest degree of blight, and proceeds from an atmospheric stroke. In proof of

its not being infectious, he quotes several authorities, and particularly an experiment made by Sir John Call, in Cornwall, where, out of about three hundred ears that grew from the stocks of infected wheat, only two smutty ears were found. But in opposition to these authorities, other proofs equally strong in support of a contrary doctrine have been adduced. In Chalmers' *Cyclopedia*, the disease is ascribed to rankness and fatness of soil, and to the use of fresh dung, and Mr. Bradley calls it a blight. Some have thought that it proceeds from a dense glutinous vapour that descends on the plants betwixt the setting and rising of the sun, and binds the valves and obstructs vegetation, and as the young grains cannot thus experience the influence of the air which is necessary for maturation, they consequently become rotten heaps of putrefaction. Others imagine that when two or three stalks grow from the same root, a deficiency of nourishment may cause the smut. Some authors confound smut with mildew, calling the one red mildew, and the other black; others consider them distinct, and arising from different causes, and think the mildew the worst. Fontana was of opinion, that the black mildew or smut arises from real vegetables perhaps of an imperfect kind; and that these, by absorbing the nutritive juices, enfeeble the plant, and produce the injury complained of. Willdenow thought the smut proceeded from a fungus which multiplied so as to occupy the whole ear, (*Principles of Botany*, p. 356); but F. Bauer of Kew ascertained it to be a morbid swelling of the ear, and not at all connected with the growth of a fungus. (*Smith's Introduction*, p. 282.) M. Prevost ascribes it to a microscopic vegetable of some sort; and Jussieu says, the proximate cause of smut may be attributed to infection of the seed, by the dust of the smut ball (*Lycoperdon globosum*) in whatever manner the disease may be transmitted from the seed corn to the ear. If the seed be prepared by the application of caustics, though it may not altogether prevent the smut, the disease will not materially affect the value of the crop.

These numerous conflicting opinions as to the cause of smut, render it impossible to recommend any certain mode of investigation to clear up this perplexing subject, and after all that has been written upon it, the cause of this disease in the Cereal crops may be regarded as one of those arcana of nature, with which the human mind will probably never be intrusted. Not one single opinion has been advanced on this subject, that has not been refuted; so that it would appear the more we inquire into the mysteries of the works of nature, the more are they presented to the human mind in a perplexing form.

On rich lands that yield much straw, over luxuriance or stagnation and corruption of juices gives a probable appearance of the cause of disease; but smut is equally prevalent on poor soils not yielding above fifteen bushels per acre. Clean wheat has been sown on different fields and farms after undergoing the same preparation, and it has produced smutty wheat in one instance and clean in another. And it is remarkable that on contiguous farms of the same quality of soil, and with exactly the same preparations of land and seed, smut is constantly produced on some, and is never to be seen on others. But from whatever cause it may arise, there is sufficient reason to believe that it is contagious, and therefore the utmost care is necessary to separate the smutty wheat from sound, so as to prevent the spreading of the evil. Till has related that the use of salt brine as a pickle was discovered by the sowing of wheat steeped in salt water, which had been taken out of a ship that had sunk near Bristol, and

which escaped smut, when nearly all the wheat in England was infected.

It will be unnecessary to enumerate all the different receipts prescribed by authors for the prevention of smut; a few of the most common will be sufficient. A solution of common salt in water, strong enough to carry an egg, sometimes mixed with nitre and copperas, in which the wheat is steeped, the light grains being carefully skimmed off, and dried with quicklime and then sown, forms a good receipt. A decoction of the water of tobacco, hellebore powder, and Barbadoes aloes has been much recommended; also a solution of arsenic in water, and a mixture of water, woodashes, and potash, in the proportion of 8lb. to 100 pints of water. Signor Scandella, an Italian physician, recommended a mixture of water, woodashes, alum, vitriol and verdigris, boiled for an hour, in which the wheat is steeped, and then mixed with quicklime. In Norfolk the salt is dissolved in a small quantity of water, barely sufficient for the purpose; the lime is slaked with this solution, and the wheat is dried with it in its hottest state, having been previously moistened with pure water. In Yorkshire, one ounce of white arsenic finely powdered is boiled in a gallon of water for two hours, and stale urine is added to increase the quantity to two gallons, then the wheat is steeped in the liquor, and encrusted with quicklime. In the south of Scotland and in the north of England, stale urine free of any mixture is generally used, and in a practice of forty years, Messrs. Culleys used this preparation, and never had any smut. A tub holding a bushel of wheat, with a tin bottom, pierced with holes, is immersed in the tub containing the urine, and after the wheat is repeatedly stirred and the light grains skimmed off, it is thrown on a clean floor encrusted with quicklime, and sown immediately. A short time only must elapse betwixt this preparation and sowing, as the corrosive quality of the volatile alkali with which stale urine abounds, will destroy the vegetative power of the seed, especially if quicklime be added. Urine differs in composition according to the state of the body, and the nature of the drink and food made use of. According to the analysis of Berzelius, 1,000 parts of urine are composed of

Water	933
Urea	30.1
Uric acid	1
Muriate of ammonia, free lactic acid, lactate of ammonia, and animal matter	17.14
The remainder different salts, phosphates, sulphates, and muriates.	

Putrid urine abounds in ammoniacal salts, which, according to the experiments of Sir H. Davy, are injurious to vegetation except in very small quantities. It is therefore supposed that the pickles are useful, not for any invigorating quality they possess, but in correcting by their corrosive nature any noxious quality adhering to the grain, and in destroying the insects which some have supposed to be the cause of the disease. In the Agricultural Survey of the county of Clackmannan by J. J. Erskine, Esq., it is proposed to destroy, by means of kiln-drying the wheat, the insects that are supposed to constitute or propagate the disease. This practice was brought from Ireland, but has never got into general use.

The following experiments with different steeps, on wheat impregnated with smut, were made in Northumberland, in which the writer was engaged under the directions of an eminent agriculturist.

EXPERIMENTS.

- No. 1. Wheat sown without any preparation, produced 866 sound ears, and 2 smutted; in the proportion of 433 sound ears to 1 smutted.
- No. 2. 400 Grains of Wheat impregnated with smut powder, and sown without any preparation, produced 210 sound ears, and 463 smutted; in the proportion of 1 sound ear to 2 smutted.
- No. 3. 400 do. impregnated with smut powder, and washed with chamber-ley, produced 560 sound ears, and 106 smutted; in the proportion of 5 sound ears to 1 smutted.
- No. 4. 400 do. impregnated with smut powder, and prepared with chamber-ley, and limed, produced 700 sound ears, and 60 smutted; in the proportion of 11½ sound ears to 1 smutted.
- No. 5. 400 do. impregnated with smut powder, and steeped in arsenic and water, and limed, produced 600 sound ears, and 41 smutted; in the proportion of 14 sound ears to 1 smutted.
- No. 6 400 do. impregnated with smut powder, and rubbed with dry arsenic, produced 538 sound ears, and 146 smutted; in the proportion of 4 sound ears to 1 smutted.
- No. 7. 400 do. impregnated with smut powder, and steeped in vitriol and water, and limed, produced 635 sound ears, and 40 smutted: in the proportion of 16 sound ears to 1 smutted.
- No. 8 400 do. impregnated with smut powder, and steeped in copperas and water, and limed, produced 205 sound ears, and 445 smutted; in the proportion of 1 sound ear to 2 smutted.
- No. 9. 600 do. sound grains, picked from a badly smutted crop in the neighbourhood, and sown without any preparation, produced 612 sound ears, and 53 smutted; in proportion of 11½ sound ears to 1 smutted.
- No. 10. 600 do. do. impregnated with chamber-ley, and limed, produced 757 sound ears, and 16 smutted; in proportion of 47 sound ears to 1 smutted.
- No. 11. 200 do. do. impregnated with smut powder, and sown without any preparation, produced 67 sound ears and 375 smutted; in proportion of 1 sound ear to 5 smutted.
- No. 12. 200 do. do. impregnated with smut powder, and prepared with chamber-ley, and limed, produced 374 sound ears and 43 smutted; in the proportion of 9 sound ears to 1 smutted.
- No. 13. 200 do. do. impregnated with smut powder, and steeped in arsenic and water, and limed, produced 443 sound ears and 44 smutted; in the proportion of 11 sound ears to 1 smutted.
- No. 14. 200 do. do. impregnated with smut powder, and rubbed with dry arsenic, produced 317 sound ears and 43 smutted; in the proportion of 8 sound ears to 1 smutted.
- No. 15. 200 do. do. impregnated with smut powder, and steeped in vitriol and water, and limed, produced 430 sound ears and

40 smutted ; in the proportion of 11 sound ears to 1 smutted.

No. 16. 200 do. do. impregnated with smut powder, and steeped in copperas and water, and limed, produced 260 sound ears and 190 smutted ; in the proportion of $1\frac{1}{2}$ sound ears to 1 smutted.

These experiments, and those of Mr. Arthur Young, though no doubt conducted with sufficient care, only prove the absolute merits of each, and comparative merits of the several pickles used ; but trials, repeated for years, are necessary before conclusions can be drawn, as nothing can be determined from a single experiment. The expedients that have been proposed, and are now used, may be admirably calculated to answer the end, and have no doubt been productive of much benefit ; but the husbandman must be cautioned as to placing too much confidence in them, so as to neglect other particulars. Smut will appear notwithstanding the utmost precautions are used, and more so in some situations than in others. A frequent change of seed is necessary, and should be chosen from a situation absolutely free from smut. If any disease has appeared, the greatest care should be used in the sweeping out of barns, granaries, and every corner capable of holding a single seed of the old grain, that the new may not come in contact with it. If these precautions are neglected, the change of seed will be useless. The seed must be carefully pickled in salt and water, or in stale urine, as before directed ; and if these particulars be attended to, the experience of the most eminent and enlightened agriculturists warrants us in asserting, that the corn will be free of disease, and always clean.

This is all that is known in the present state of science as to the cause and prevention of smut ; the real nature of the disease has hitherto eluded the search of the most scientific inquirers, and the veil which Nature has drawn over many parts of her works still enshrouds them beyond our visual organs. But the great advancement in knowledge that has been made in the scientific world, and the unceasing efforts of genius in endeavouring to explain the mysteries of nature, encourage us to hope that many things that have hitherto baffled investigation may yet be discovered, and that the cause of smut may soon be as well known, as various natural phenomena which half a century ago were "but seen as in a glass darkly." But on these subjects it would be as presumptuous to be sanguine, as unphilosophical to despair.

STATE OF AGRICULTURE IN RUSSIA.

Whenever Russia is spoken of, our minds at once recur to the ideas of her military organization and her despotic power. Her bayonets, and the far-reaching views of her ambitious cabinet, have hitherto been the only objects of our fear. No person for a moment thought of any competition arising in manufactures or agricultural produce ; for these two sources of national wealth were considered to be still in a barbarous condition. This cloud of error is beginning to be dissipated ; more correct ideas are entertained of the resources of this great country ; and the following remarks may perhaps have the effect of destroying the erroneous impressions which our agriculturists have hitherto entertained of the state of agriculture in Russia. We have derived our information from various sources, but principally

from a work published by Dr. Schmalz, a learned German, well skilled in agriculture, who visited Russia in 1834, on the express invitation of the Emperor himself. This gentleman made an extensive tour through the whole of the interior of Russia, at the public expense, in order to report from actual examination, on the condition of the country ; and the work before us is the result of his labour. "I have run through," he says "nearly 2,000 leagues. I have beheld matters of great interest, and nearly everything was different from what I thought, and what is generally supposed by foreigners. What particularly struck me was, the inexhaustible fertility of the soil, and not in some particular locality, but over thousands of miles. Everywhere I beheld a black earth, containing little clay, but an extremely fine sand, and a vast quantity of organic decomposed matter. When the year is favourable, this soil is of extraordinary fertility ; but the fineness of the sand, and the natural condition of the earth, sometimes cause in the dry seasons hardness to take place, which often compresses the roots of the plants so tightly, as to cause their death. As this hardness arises not from a superabundance of clay, but from the fineness of the sand, and from the organic substances which are found here, a very slight moisture is sufficient to render it easily worked, and perfectly adapted to vegetation. The slightest rain, or even a humid atmosphere, will suffice to place the ground in proper condition. This dark soil, which I have mentioned above, presents a very remarkable phenomenon. Whenever it is strongly heated, and receives a little rain, then the evaporation is so rapid, as to cause a remarkable lowering of the temperature at the surface of the ground. This cold descends even to frost in the month of July, in the country inhabited by the Cossacks, in the neighbourhood of the river Don.

"Wherever trees are planted, there the harvest is found to be far more certain ; this may arise from the moisture which they produce. Unhappily, vast tracts of country, such as cannot be traversed in some days, may be seen without a single tree appearing. The first thing to be done, should be to establish forests where none are found at present. The harvest would be thus rendered sure, and the whole country might be depended on as surely as in the immediate neighbourhood of Pultowa, where the moisture is preserved by vast plantations of oak and hazel. Even in this locality, these forests are becoming more and more deteriorated in value. In this locality, corn of all sorts has been cultivated from time immemorial, without any manure being used ; and this fertility gives every promise of still continuing. Formerly a prejudice existed against the employment of manure, but now experienced agriculturists find that the use of it is extremely advantageous. Formerly in these countries, as the use of manure was unknown, it was employed for making banks to ponds and lakes ; for strewing on the high roads ; or for barring rivers, in order to make mill streams. Sometimes enormous masses of manure were heaped up, from which saltpetre was afterwards extracted ; and even now, there are huge heaps lying unemployed, from which posterity will derive profit and advantage. In parts of the country where wood was scarce, I saw steam engines in large manufactories fed by fuel made of manure dried, and put into round pieces for firing. That part of the south of Russia where a great scarcity of wood prevails, is alone equal in extent to the whole of France. Nothing could improve the climate and

the soil more effectually than extensive plantations, and then dry years could no longer bring with them such disastrous results.

"In general, it is the practice to give to each crop but a single tillage, executed with a heavy and ineffective plough. The ground is thus left till sowing time, when the harrow is run over it.

The seed is then scattered, and the harrow is used again. Eight or ten huge oxen are often seen to one poor plough; though, where agriculture has advanced a little, I have seen a single horse or a pair of oxen harnessed to it. In the more forward districts, manure is used freely, and several dressings are given to the ground. The head manager of the Prince of Kutchesberg, in the government of Pultowa, who is named M. Kleberg, was particularly distinguished for his eagerness to avail himself of new methods of cultivation. Hemp is now cultivated extensively in these districts. It is of exceedingly fine quality, and the amount of produce is wonderful. Potatoes are grown here and there, but are by no means common. Beans and peas are sometimes seen, but not generally. Tobacco is in great plenty—vast plains are absolutely covered with it; and, in the government of Pultowa, the vine, the mulberry-tree, the walnut, the common melon, and the water melon succeed perfectly, and in the open air. The wines of the Don, and of the Crimea, have already a name, and will become celebrated. In the government of Saratow, the brothers Sarepta are well known for their success in producing currants and large grapes. Their fruit is of astonishing size, beauty, and flavour; scarcely to be equalled in Europe. Their water-melons are also exceedingly fine. I have seen large plains in Russia covered with this plant. In this government, great pains are taken to advance the cultivation of silk. The great obstacle to perfect success, arises from the injury done to the mulberry trees by the sharp east winds. They are now beginning to cultivate the bush mulberry* tree. The Russian silk is of fine quality.

"But of all branches relating to agriculture, the most flourishing in Russia is the breeding of cattle. The country is admirably adapted for this pursuit; and the skill exhibited is considerable. Everywhere immense flocks and herds are seen, remarkable alike for their numbers and for the beauty of the beasts. It is, above all, for their horses that the Russians deserve praise. I thought, before I visited the country, that they depended on the wild herds for supplies; but I now know that many thousands of horses and mares are kept apart for production alone, in which the Oriental blood predominates, or, at least, blends happily with the Russian breed. I saw, at the fair of Romen, about 5,000 young and beautiful horses, which were mostly bought up at high prices, for mounting the Russian cavalry. The finest cattle are seldom brought to market. They are, for the most part, purchased from the breeders, or privately, at Moscow or St. Petersburg†—Horses destined for breeding fetch from 60*l.* to 350*l.* each.

* It is not easy to determine whether M. Schmalz means the dwarf mulberry tree or not. It is cultivated to some extent, at present, in Russia.—*Note of Translator.*

† There is a law in Russia which compels the breeders, under severe penalties, to take their horses only to the government markets, where a price is fixed on them when they are marked as fit for military service. Great abuses arise from this law.—*Note of Translator.*

I visited with great interest the stud of Count Orlow, at Cronawoi, in the government of Woronesch. There are usually kept there 450 young mares, of which 300 are trotters destined for the road—the rest are Oriental, or English, or mixed—in all there are between 2,500 and 3,000 beasts. The celebrated Orlow trotters are all bred in this stud. I owe it to the kindness of the chief of the establishment, M. de Matmezen, to have been present at a trotting-match trial. The stallion "Wiseborn" went over a *werst* (more than half a mile) in a minute, in a trot only, I was informed that this speed could be kept up for ten *wersts*, and that in lessening the speed by half, he could continue for a considerable time. None of the trotters appeared much heated from rapid speed, for the distance of a *werst*. After two heats at the top of their speed, there was but little appearance of distress. This stud never sells a real trotting stallion; one, and one only, I was informed, was granted to the Emperor for 1,200*l.* A good Hungarian horse of this species costs 50*l.* or 60*l.*, a great sum for Russia.

"If the cultivators of fine wool in Germany could see the numerous flocks of Russia, and the immense quantity of wool they produce, some apprehension would arise probably at the thoughts of the competition which must shortly commence. Flocks of 20,000 pure Merinos are by no means rare in many districts of this country. The most considerable which I visited belonged to the Countess Pusomowski; when I saw it there were only 58,000 beasts, independent of lambs; but this was after the severe season of 1833, when food failed, and thousands of the flock were got rid of. The usual number is never so low as 60,000 Merinos. Their wool may be ranked amongst the best middle description; it is worked up into fine cloth, in a manufactory of great extent, on the spot. The manner of treating the best quality sheep in this flock appeared to me highly judicious. It is true that wool of the greatest fineness is not obtained, but the fleeces have a firm body, and are of a large size. The great proprietors have expended a large capital in forming these flocks; they give a good return, and a great quantity of the beasts, particularly the rams, are sold to the interior of Russia, destined to form the commencement of new flocks. I have occasionally seen wool of the very first quality in Russia, but not often. That produced in the south has not yet been made fit for exportation, on account of a black dust which attaches itself to the fleece after washing. This dust renders the wool grey. It does not, however, lessen the value of the article for home consumption, as this dust washes off easily in the course of manufacture.

"The breeding of calves is scarcely less in advance than that of sheep. The finest herd I saw consisted of about 2,000 head of cattle, composed of pure English, and English and Russian crossed.

"To give you an idea of the great produce of this country, I will state the value of the principal products sent on a single market day to Romen. The value of horses was 3,500*l.*; wool, 3,000*l.*; cloth, 550*l.*; hemp, coarse linen, &c., 11,000*l.* The whole property on which these products were raised, only bears a rent of 18,000 a year. The managing man has a salary of about 600*l.* a year, and a house supplied from the domain."

The doctor treats, also, of the manufactures of Russia. From what we have already set before our readers, they will see that very erroneous ideas have hitherto prevailed of this great country.

THE ENGLISH AGRICULTURAL SOCIETY.

In no country in the world do the people possess such ample means for promoting any national object as in England, and it may be added, with equal truth, that their readiness to come forward is fully commensurate with their means, whenever the object in view is such as may fairly be considered as calculated to promote the public weal. It is doubtless no less true, that there exists a seeming gullibility, which enables the crafty and designing to advance empty schemes, impose upon the ignorant, the inexperienced, and the credulous, and in the end to sacrifice them to the ambition or love of pelf of the projectors. Great undertakings must either be commenced under the auspices of, or from their inception, receive the support of men of standing influence and of character in the country. When any proposal meets such support, and more especially when, notwithstanding that political feeling runs high, the leading men of both parties are found enrolling themselves for the promotion of a common object; this fact not only furnishes strong evidence of the soundness of the object contemplated, but may be considered as a reasonable guarantee of success. We experienced much gratification in being enabled to announce in our Journal of the 19th ult. the addition of the name of the Duke of Wellington to the list of Life Governors of the "English Agricultural Society;" and it is with feelings of pleasure not less glowing that we received permission to add the names of the Marquis of Exeter and Sir Robert Peel, Bart., M. P. The Noble Marquis is well known as a practical farmer and a first-rate breeder. Sir Robert Peel stands at the head of his party in the House of Commons, and by universal consent is admitted to be the most talented statesman on that side of the House. We hail the accession of these individuals of high standing in the ranks of the Conservatives for two causes; first, because it is decisive as to the absence of every thing political in the construction of the Society, a point, in our opinion, involving its very existence; and secondly, which is of still greater importance, as showing a uniformity of opinion as to the importance of promoting improvement in agriculture and the means whereby such improvement may be best promoted. It may be that we feel too sanguine upon the subject, but we shall assuredly be much disappointed if the establishment of the "English Agricultural Society," do not form a new era whence to date the elevation of British agriculture. It is to the establishment of mechanical institutions, to each of which a library, with various instruments, models, &c. is a necessary appendage, that the mental improvement known to have taken place amongst the operatives, may in a great measure be ascribed. To promote the systematic establishment of Farmers' clubs, having the same object in view as regards the agriculturists, as the Mechanics Institutions have in reference to the operatives, should be one of the first subjects for the consideration of the new society. Such clubs will afford easy and effectual means of disseminat-

ing speedily and extensively any useful information procured by the new society. It may perhaps be objected that mechanics and dwellers in towns, from living near each other, enjoy a facility of access to the places of meeting which farmers, spread over the country, do not, nor ever can possess. This is quite true, but nevertheless, we know, by information from the members of some of the clubs now in existence, that this objection is not valid, that it does not operate in practice, and that the farmers most cheerfully exert themselves to attend the meetings. Mr. Handley has very justly observed, in his letter to Earl Spencer, that the rising generation of farmers are better educated, more enlightened, more anxious to acquire information, and more ready to try experiments, or adopt improvements than their immediate predecessors. The materials, therefore, being of a better kind, it may reasonably be expected that the work will be executed with greater ease, and with better prospect of success. It seems to be admitted by almost common consent, that taking the whole country throughout, so far only as regards the land under cultivation, it is fully capable of producing, under a better system of management, one-third more than at present. How can improvements in cultivation be so readily promoted as by systematically disseminating amongst the whole agricultural community, simple detailed accounts of the best system adopted in the best cultivated districts upon the different soils respectively, and offering premiums upon those points in which that particular part of the country is most deficient, at the same time taking care that the prizes be of such value as to induce competition. Notwithstanding the admitted improvement in our breed of cattle, notwithstanding the high prices which may be obtained for good horses, yet it will scarcely be credited by those who have not had ocular demonstration of the fact, that over a very large portion of the kingdom the animals of both kinds are the worst and most ill-shapen that can be imagined. This originates in a great measure from ignorance of the first principles of breeding. No care is taken, no judgement displayed in the selection of the parent, and of course, no superiority of form or properties can be expected in the offspring. The construction of agricultural implements in by far the greater part of the country is rude and not regulated by any mechanical principle, no regard being had to economising the strength of power requisite to perform the labour. Every saving of unnecessary expenditure in labour enables the farmer to lay out more in profitable labour; and as it may be asserted without fear of refutation, that sufficient capital is not employed upon three-fourths of the cultivated land in England, an economy of useless labour virtually adds to the farmer's capital. We trust that the "English Society" will meet with general support from the landed interest, and we have no doubt but that through its means such plain simple and sound principles in the different departments of farming will be so widely and speedily diffused amongst the agricultural class as to work a rapid improvement, alike beneficial to the landlord and the tenant.

ASH BOCKING FARMER'S CLUB.

The following Report of the First Annual Meeting of the Ash Bocking Farmers' Club, held at Ash Bocking, was read on Thursday, April 5.

"It is now twelve months since we first met in this place for the purpose of forming a Farmer's Club. The experiment was altogether new, and in some respects not very encouraging. In a neighbourhood like this, remote from any of these small towns which are so numerous in certain districts of our county, it would have been unreasonable to expect that a very large number of persons interested in our proceedings could be collected with any regularity, and not more reasonable would it have been to have anticipated in the discussion of such questions as might come before us that regularity and elegance which would be displayed by a body of men possessing high scientific attainments. Laying claim to no such pretensions as these, and forming but moderate expectations as to the probable number of our party, we, nevertheless, felt desirous of trying whether we might not, a few of us, meet together, and in a free and easy manner talk over such questions as are of importance to the farmer, either in the management of his lands and crops, or in the relation in which he is placed to the other classes of society, and thereby informing our minds and creating and cherishing a mutual feeling of good will. So much, at least, we thought ourselves warranted in expecting, but our hopes did not terminate here. We looked to the possibility of other parishes following our example, and were not entirely without hope that Club after Club might be formed in the surrounding districts until the whole county should be put into such a state of organization as would afford every facility for friendly and useful intercourse. And if thus much were accomplished, we could not help asking ourselves, why may not the whole farming population of the United Kingdom be ultimately united by the operation of this system, in such a manner as shall enable them to give that clear and forcible expression of their sentiments, which is so frequently required in the present state of our affairs? We have been sometimes ready to reproach ourselves with folly when we have indulged such sanguine thoughts, and when we have ventured to give expression to them we have sometimes met with the ridicule of others. But the object was important, and the way was open, and we well know that if nothing were attempted nothing would be done. Preferring also the disappointment of a failure to the self-reproach we should have endured if we had wanted courage sufficient for so easy an enterprize, we ventured on the attempt, and at present feel no disposition to regret the time and attention we have given to it. The exhibition of articles of agricultural produce last autumn, far exceeded any thing that could have been expected. The interest excited by it was considerable, and it was the occasion of many varieties of vegetables, herbaceous plants, and grains, being distributed into several distant parishes, where the great variety of soils and different modes of culture will necessarily conduce to increasingly satisfactory results. In common with our neighbours, we felt that it was a degradation to be compelled to insert our names, &c., in two-inch letters upon our taxed carts. We therefore united our voices with those who petitioned for the repeal of that obnoxious and odious clause, and it is satisfactory to us that we did not

petition in vain. Petitions for the repeal of the Malt Tax were presented previous to the determination of Government, to try Captain Rudkin's machine, but in consequence of that determination, we have thought it better to defer petitioning until the result of the trial has been made known. In further proof of the utility of the Farmers' Club, we may refer to two local benefits which, though not permanently connected with the club, are indebted to it for their existence, viz., the establishment of a daily post along a line of road, leading from Ipswich to Otley and Helmingham, and the arrangement of a plan of an Association for prosecuting felons, on a principle more equitable and less expensive than that usually adopted. We feel much encouraged by the establishment of several clubs, after the model of our own, and we congratulate those spirited individuals who exerted themselves in their formation, on the success they have already obtained. Yoxford and Harleston bid fair to place Farmer's Clubs in a highly respectable position, and we trust that Eye and Beccles will compete with them in a praiseworthy emulation."

After the adoption of the forgoing report, several resolutions were passed in furtherance of the objects of the Club, from which we extract the following:—"That the thanks of the Club are due to those gentlemen (not being Members) who furnished specimens of roots, seeds, and other productions to the exhibition last Autumn.—That a show of agricultural produce for the present year, take place on the 1st. Nov. next."

After the business of the day was concluded, the Members of the Club enjoyed the evening in the most social manner, and separated about half-past nine.

THE COMFORTS OF A THATCHED COTTAGE.—A thatched cottage is an object of admiration with many persons who have not had much experience of country life; and, accordingly, we find several in the neighbourhood of London. Such cottages have, perhaps, the gable-end covered with ivy, the chimney tops entwined with Virginian creepers, and the windows overshadowed by roses and jasmines. The ivy forms an excellent harbour for sparrows, and other small birds, which build there in quantities, in spring, and early in summer, and roost there during the winter. In June, as soon as the young birds are fledged, all the cats in the neighbourhood are attracted by them, and take up their abode on the roof of the house every night for several weeks; the noise and other annoyances occasioned by which we need only allude to. We say nothing of the damp produced by the deciduous creepers, and the roses, as we have already mentioned that: but we must here notice another evil, which is not so obvious, although quite as serious, and this is, the numerous insects generated in the decaying thatch; and, more especially, that loathsome creature, the earwig, which, in autumn, whenever the windows are open, comes into the house in quantities, and finds its way into every closet, chink, piece of furniture, and even books and papers. All cottages of this kind harbour snails and slugs in the ivy, and spiders under the eaves of the thatched roof; and, wherever there are spiders, there is also abundance of flies. As there is always a garden attached to such cottages, it is almost certain, if on a clayey soil, to abound in snails, slugs, worms, and, if the situation is low, perhaps, newts. Some of these from the doors, or, at all events, the back-door, being generally kept open, are quite sure to find their way not only into the kitchen, but even into the pantry and cellars. Slugs, when very small, will enter a house through a crevice in the window, or a crack in the door; find their way to the moist floor of the pantry or

the cellar, and remain there for weeks, till they are of such a size that they cannot retreat. There are few persons indeed, who do not experience a feeling of disgust at seeing the slimy traces of a slug in any part of their house, not to speak of finding them on dishes in which food is kept, or even on bread; or at discovering an earwig in their bed, or on their linen. The kitchen in low, damp cottages of every kind, almost always swarms with beetles and cockroaches, and the pantry with flies; while, from the closeness and want of ventilation in the rooms, it is almost impossible to keep fleas, &c. from the beds. If a large dog be kept in or near the house, as it frequently is, or if a stable or cow-house be near, the fleas from the dog, the horses, or the cows, which are larger than the common kind, will overspread the carpets, and find their way to the sofas and beds. Having lived in cottages of this kind ourselves, in the neighbourhood of London, we have not stated a single annoyance that we have not ourselves experienced, and we have purposely omitted some. Two of these, offensive smells and rats, are the infallible results of the want of proper water-closets and drainage: but these evils, great as they may seem to be, are much easier to remedy than the others already mentioned, which are, in a great measure, inseparable from the kind of house. Two others, the danger of setting fire to a thatched roof, and its liability to be injured by high winds, are sufficiently obvious; but it would hardly occur to any one, who had not lived in a house of this description in the neighbourhood of London that a thatched roof is, of all roofs, the most expensive, both when first formed, and afterwards to keep in repair. A plumber or a slater, to repair a lead or a slate roof, may be found every where in the suburbs of large towns; but a professional thatcher must be sent for from the interior of the country.—*Suburban Gardener.*

ON THE UTILITY OF GREEN AND ROOT CROPS FOR THE SUPPORT OF CATTLE.

(TO THE EDITORS OF THE IRISH FARMER'S MAGAZINE.)

GENTLEMEN,—It is generally allowed that provision for cattle is one of the first consideration in husbandry; and the recent improvements in this department form the most striking feature of superiority in the modern over the old system of agriculture. By this mode of grazing (so to term cattle feeding in general) a considerable portion of land is necessarily withdrawn from the culture of corn; yet reason and experience clearly demonstrate that the corn crops will be vastly superior in point of quality if not quantity; and instead of the land being exhausted as heretofore, it may thus be maintained in perpetual vigour. Indeed it is somewhat strange that men should be so grossly ignorant of their nearest concerns, or how they contrive to keep themselves continually hoodwinked so as to go year after year fallowing and improving their farms, without keeping cattle sufficient to manure one-fourth part. If you enter into conversation, and ask any of these men why they do not keep more stock, they will tell you they should like to do so well enough, but that their's is an arable not a grazing farm—which renders the thing totally impossible. This is the kind of reasoning which passes currently under the denomination of experience. But I contend, and will maintain, that an arable farm, if properly managed, is capable of supporting more cattle than what is styled a grazing farm (providing a sufficient home stall); and that the green and root crops will go much farther in feeding than

natural grass. If this be the case, is it not sheer nonsense to talk of a want of herbage upon an arable farm—a defect which is so easily and so speedily remedied? Then comes another description of cultivators, if anything, worse than the first, who pride themselves in summer feeding a considerable quantity of stock, but seem either careless or ignorant how to provide for their winter support. What follows? They are usually obliged on the approach of winter to part with a considerable portion of their stock at great disadvantage, whilst the remainder are left to encounter cold, hunger, and wet, and to lose as much per head as they are likely to profit the ensuing season. But this plan of subjecting cattle to loss during the winter is both a public and private disadvantage, by no means partaking of misfortune, but that custom and ignorance have established it. I have no hesitation in submitting that the practice of keeping stores half-starved, and subjecting them to all the hardships and inclemency of the elements, is not only absurd, but inhuman. The improvement of cattle ought to proceed equally in winter as in summer. If any landed proprietor thinks that I have laid too much stress on the necessity of a more generous treatment for store cattle during the winter season, I refer him to the newspapers, where he will read startling accounts of the number of cattle that were lost during the late snow storm. Independently of mortality, let him any season compare the spring condition of animals under either regimen, and see whether it might not be worth his while to make one trial.

There exists a most unfortunate prejudice amongst the farmers of the old school. They imagine nothing can be profitable on a farm but corn. I was endeavouring to convince a farmer of the advantages derived from the cultivation of green crops. He replied drily—"Don't you know that green crops, let them be ever so good won't pay my rent;" and beyond that I could not get him to advance. But I would entreat the farmer unaccustomed to the crops to give them an impartial trial, and fairly calculate the cost—then, on the credit side, place the condition of his cattle, increase of manure, and improvement of his land—particularly comparing this last with the condition of his land after a crop of corn. Of the following crops I would advise the prudent farmer to cultivate what he may deem necessary, never fearing to overstock himself with winter provisions, viz:—Winter and spring vetches, clover, cow-grass, mangel wurzel (the leaves for soiling, the roots for winter use), turnips—the first in point of nutriment are the Swedish, but the Norfolk and Aberdeen succeed better on light soils, cabbages, carrots, rape, &c., &c. I have in the above assigned the species most to be depended on in the general class of soil; but it is evident a great latitude might be allowed.

I have the honour to remain gentlemen,
Your most obedient Servant,
W. H. POOLE.

Killtulla House, Loughrea, County Galway.

LABOURER'S FRIEND SOCIETY.—The annual meeting of this society was held on Wednesday, at No. 20, Exeter Hall, Mr. Briscoe, M.P., in the chair. The Chairman congratulated the meeting on the present flourishing state of the society. This was attributable to the sound principle on which it had been founded, and so long as that principle was adhered to and acted upon, it would continue to prosper, to flourish, and to dispense its advantages among the labouring classes as

it had hitherto done. He had it in his power this year to communicate the most gratifying fact which it had ever before become his duty to make known to the members of this society, and that was that their income had now for the first time equalled their expenditure; nay, they had even been able to liquidate all their outstanding debts. The Secretary then read the report, which was received with gratification and adopted. The Chairman communicated the fact of her present Majesty becoming the patroness of the society, with the same liberal subscription as that given by his late Majesty William IV. The meeting was small, owing to the terms of the advertisement leading to the supposition that it was only a committee, instead of a general meeting.

DESTRUCTION OF WOODLICE, SLUGS, AND RED SPIDER.

SIR,—Not having seen a reply to the question, inserted some time ago in the *GARDENERS' GAZETTE*, "what means are the most efficient for the destruction of the woodlice, slugs, and red spider, infesting the melon and cucumber beds," I beg to say, for the first and second named nuisance, a toad placed in the frame is a certain remedy; for the last, about a handful of tobacco tied up in a piece of gauze or crape, and squeezed into a gallon of water, applied by means of a fine pierced syringe, under the leaves, holding them up with a stick, and around the sides of the frame.

Unless the tobacco is inclosed in the crape it would stop up the syringe. The tobacco infusion is found rather to promote than injure the growth of the plants. Whilst on the subject, may I be allowed to state, old fish netting, doubled, is a much better shade from the heat of the sun than matting, &c.

Should you think the above communication unworthy a place in your valuable paper, I ask you to pardon me for putting you to the expense of postage. I am, Sir,

Your obedient servant and constant reader,
Stalbridge, Dorsetshire. W. M.

HUNTING SONG.

(FROM THE ATHENEUM.)

The stars are still in the cold blue sky,
The mists have sped away;
The chimes ring blithe in the belfry high,
'Twill shine a glorious day!
Our prancing steeds before the gate,
And the eager hounds, I hear;
What, ho! rise up! you lie too late,
Rise up to seek the deer!

My lady and her maidens tall,
Like bright flowers in a row,
Lean, blushing, o'er the terrace wall,
To see the hunters go;
And when dusk evening ends our toils,
Their music thou shalt hear:
Then up, Sir Sloth! deserve their smiles,
Come out and chase the deer!

The droning sage may hug his bed,
With nightly poring weak;
But give me early morning red,
With its fresh breeze on my cheek.
My merry mates, who love me well,
Are all around me here;
Tralla! Tralla! through wood and dell,
Away! and hunt the deer!

TO THE EDITOR.

SIR,—One of your correspondents, who signs himself "Clod" requests to be informed what I mean by the alternate system of farming, as distinguished from the old system formerly pursued. I mean, simply a green crop interposed between every two crops of corn. He also asks what is my system of rotation.

1. Turnips. 2. Barley or oats. 3. Clover or trefoil. 4. Wheat. On land too wet for turnips, a naked fallow instead. He asks how I am enabled to keep more live stock than the Buckinghamshire farmer? By growing more green crops, and by fattening on barley meal and peas, with the help of Swedish turnips.

I expressed an opinion in my first letter, that if all our fields were cultivated as highly as they ought to be, we should not only find ample employment for all our labourers, but food enough to afford every man a piece of meat for dinner, and a jug of beer to drink with it. This may perhaps be thought to require further proof or illustration. It depends on what may be called an agricultural paradox: namely, that a given surface of land is capable of producing more corn together with cattle, than the same land would produce in corn without cattle. "How can this be?" your town readers may say, "do cattle eat less than nothing? Surely every acre that is sown with clover or turnips must be so much taken from the growth of corn? Does not Euclid tell us that a part is less than the whole?" True, I reply, in geometry, but false in agriculture. Without cattle, no manure, and without manure no corn. Fifty acres well dunged yield more corn than a hundred acres without dung or seventy five half dunged; not only more, but *very much* more, *twice* as much. This may seem incredible to those who have had no experience in the cultivation of land, but it is a fact abundantly established. Returning to my former quotation from Von Thaer, he estimates the produce in grain of 913 acres well cultivated at 2,030L., of the same ill cultivated at 894L. The first number, it will be seen, is more than double the last, and even the ill cultivated land is not supposed to be entirely without manure; it receives a scanty supply once in six or seven years.

There is, of course, a limit to this principle. Admitting that the produce of land may be doubled by good cultivation, I do not assert that it can be trebled or quadrupled. I affirm, however, without hesitation, that we are far from having reached the highest point of possible improvement. I say that without lessening our present annual growth of wheat, we might raise from the same land such an additional quantity of barley, and find such an additional number of cattle, as to afford every man in the kingdom a quart of beer and half a pound of meat per day. In order to this, it would be necessary, undoubtedly, to employ man capital on the land. Now the employing man capital is the same thing as the employing men labourers. With one hand we should be furnishing the means of subsistence to the poor, with the other creating a demand for our own additional produce. This is the beautiful arrangement of that natural state of society in which capital is not withdrawn from the soil by a gambling spirit of commerce. It is the state of things which prevails in Switzerland, in Norway, and in other non-commercial countries, notwithstanding a sterile soil and ungenial climate. The extreme of poverty is as rare in these countries as the extreme of wealth.

A HAMPSHIRE AGRICULTURIST.

March 17, 1838.

ON THE FORMATION OF MOULD.

(FROM A PAPER BY C. DARWIN, ESQ., F.G.S., READ IN NOVEMBER LAST AT A MEETING OF THE GEOLOGICAL SOCIETY.)

The author commenced by remarking on two of the most striking characters by which the superficial layer of earth, or, as it is commonly called, vegetable mould, is distinguished. These are its nearly homogeneous nature, although overlying different kinds of subsoil, and the uniform fineness of its particles. The latter fact may be well observed in any gravelly country, where, although in a ploughed field, a large proportion of the soil consists of small stones, yet in old pasture land not a single pebble will be found within some inches of the surface. The author's attention was called to this subject by Mr. Wedgwood, of Maer Hall, in Staffordshire, who showed him several fields, some of which, a few years before, had been covered with lime, and others with burnt malm and cinders. These substances, in every case, are now buried to the depth of some inches beneath the turf. Three fields were examined with care. The first consisted of good pasture land, which had been limed, without having been ploughed, about twelve years and a half before; the turf was about half an inch thick; and two inches and a half beneath it was a layer or row of small aggregated lumps of the lime forming, at an equal depth, a well-marked white line. The soil beneath this was of a gravelly nature, and differed very considerably from the mould nearer the surface. About three years since cinders were likewise spread on this field. These are now buried at the depth of one inch, forming a line of black spots parallel to and above the white layer of lime. Some other cinders, which had been scattered in another part of the same field, were either still lying on the surface, or entangled in the roots of the grass. The second field examined was remarkable only from the cinders being now buried in a layer, nearly an inch thick, three inches beneath the surface. This layer was in parts so continuous, that the superficial mould was only attached to the subsoil of the red clay by the longer roots of the grass.

The history of the third field is more complete. Previously to fifteen years since, it was waste land; but at that time it was drained, harrowed, ploughed, and well covered with burnt marl and cinders. It has not since been disturbed, and now supports a tolerably good pasture. The section here was, turf half an inch, mould two inches and a half, a layer one and a half inch thick, composed of fragments of burnt marl (conspicuous from their bright red colour, and some of considerable size, namely, one inch by half an inch broad, and a quarter thick), of cinders, and a few quartz pebbles mingled with earth; lastly, about four inches and a half beneath the surface was the original, black, peaty soil. Thus beneath a layer (nearly four inches thick) of fine particles of earth, mixed with some vegetable matter, those substances now occurred, which, fifteen years before, had been spread on the surface. Mr. Darwin stated that the appearance in all cases was as if the fragments had, as the farmers believe, worked themselves down. It does not, however, appear at all possible, that either the powdered lime or the fragments of burnt marl and pebbles could sink through compact earth to some inches beneath the surface, and still remain in a continuous layer. Nor is it pro-

bable that the decay of the grass, although adding to the surface some of the constituent parts of the mould, should separate, in so short a time, the fine from the coarse earth, and accumulate the former on those objects, which so lately were strewn on the surface. Mr. Darwin also remarked, that near towns, in fields which did not appear to have been ploughed, he had often been surprised by finding pieces of pottery and bones some inches below the turf. On the mountains of Chili, he had been perplexed by noticing elevated marine shells, covered by earth, in situations where rain could not have washed it on them.

The explanation of these circumstances, which occurred to Mr. Wedgwood, although it may at first appear trivial, the author does not doubt is the correct one, namely, that the whole is due to the digestive process, by which the common earth-worm is supported. On carefully examining between the blades of grass in the fields above described, the author found, that there was scarcely a space of two inches square without a little heap of the cylindrical castings of worms. It is well known that worms swallow earthy matter, and that having separated the serviceable portion, they eject at the mouth of their burrows, the remainder in little intestine-shaped heaps. The worm is unable to swallow coarse particles, and as it would naturally avoid pure lime, the fine earth lying beneath either the cinders and burnt marl, or the powdered lime, would by a slow process, be removed, and thrown up to the surface. This supposition is not imaginary, for in the field in which cinders had been spread out only half a year before, Mr. Darwin actually saw the castings of the worms heaped on the smaller fragments. Nor is the agency so trivial as it, at first, might be thought; the great number of earth-worms (as every one must be aware, who has ever dug in a grass field) making up for the insignificant quantity of work which each performs.

On the above hypothesis, the great advantage of old pasture land, which farmers are always particularly averse from breaking up, is explained; for the worms must require a considerable length of time to prepare a thick stratum of mould, by thoroughly mingling the original constituent parts of the soil, as well as the manure added by man. In the peaty field, in fifteen years, about three inches and a half had been well digested. It is probable, however, that the process is continued, though at a slow rate, to a much greater depth; for as often as a worm is compelled by dry weather or any other cause to descend deep, it must bring to the surface, when it empties the contents of its body, a few particles of earth. The author observed that the digestive process of animals is a geological power which acts in another region on a greater scale. In recent coral formations, the quantity of stone converted into the most impalpable mud, by the excavations of boring shells and of nereidous animals, is very great. Numerous large fishes (of the genus *Sparus*) likewise subsist by browsing on the living branches of coral. Mr. Darwin believes that a large portion of the chalk of Europe was produced from coral, by the digestive action of marine animals, in the same manner as mould has been prepared by the earth-worm on disintegrated rock. The author concluded by remarking, that it is probable that every particle of earth in old pasture land has passed through the intestines of worms, and hence, that in some senses, the term "animal mould" would be more appropriate than "vegetable mould." The agri-

culturist in ploughing the ground follows a method strictly natural: and he only imitates in a rude manner, without being able either to bury the pebbles or to sift the fine from the coarse soil, the work which nature is daily performing by the agency of the earth-worm.*

THE CORN LAWS.

The following petition of the farmers and yeomen of Cambridgeshire, in the prayer of which we cordially coincide, has during the week received the signatures of persons occupying 100,000 acres of land in this country. To each signature there is subjoined the number of acres the subscribing party holds, and a ready test is thus afforded of the wealth and respectability of the petitioners:—

"TO THE QUEEN'S MOST EXCELLENT MAJESTY.

"The humble petition of the undersigned Farmers and Yeomen of the county of Cambridge,

"Sheweth,—That your petitioners approach your Majesty with the most unfeigned loyalty to your Majesty's royal person, and with fervent hope that your Majesty may long live to occupy the throne of these realms in peace and happiness.

"That, entertaining as your petitioners do the warmest respect and affection for the monarchy and institutions of this country, it is with the profound regret that they feel compelled to acknowledge that they cannot regard your Majesty's ministers with any portion of these feelings.

"That, on the contrary, your petitioners feel that they would neglect their duty as loyal Englishmen and faithful subjects of your Majesty if they did not denounce the conduct of your Majesty's ministers as ill-calculated, in their opinion, to support the dignity of the throne, the institutions of the country, and the honour and character of this great Protestant nation.

* Since the paper was read Mr. Darwin has received from Staffordshire the following statements:—1. In the spring of 1835 a boggy field was so thickly covered with sand that the surface appeared of a red colour; but the sand is now overlaid by three quarters of an inch of soil. 2. About 80 years ago a field was manured with marl; and it has been since ploughed, but it was not known at what exact period. An imperfect layer of the marl now exists at a depth, very carefully measured from the surface, of twelve inches in some places, and fourteen in others, the difference corresponding to the top and hollows of the ridges or butts. It is certain that the marl was buried before the field was ploughed, because the fragments are not scattered through the soil, but constitute a layer, which is horizontal, and therefore not parallel to the undulations of the ploughed surface. No plough, moreover, could reach the marl in its present position, as the furrows in this neighbourhood are never more than eight inches in depth. In the above paper it is shown, that three inches and a half of mould had been accumulated in fifteen years; and in this case, within eighty years (that is, on the supposition, rendered probable from the agricultural state of this part of the country, that the field had never before been marled) the earthworms have covered the marl with a bed of earth averaging thirteen inches in thickness.

"That, moreover, whilst they conscientiously believe that there is scarcely one of the various classes of your Majesty's subjects, especially amongst the industrious and producing ones, that has not some cause for serious complaint of the proceedings of your Majesty's ministers; your petitioners have, in particular, great reason to complain of their conduct with regard to a measure of the most vital importance to your petitioners.

"That the measure to which your petitioners humbly crave leave to allude is the one lately introduced into the House of Commons by Mr. Villiers, for the repeal of the corn laws, which, with a single exception, received the support of all your Majesty's ministers present, although upon the maintenance of those laws, as your petitioners firmly believe, the happiness and welfare of the whole people of Great Britain, whose subsistence is derived from the cultivation of the soil, directly depend.

"That of such great importance is the protection afforded by these laws, whilst the public debt and the taxes remain what they are (and there seems to be no means of diminishing either), that, as your petitioners do most humbly submit, no person can with safety be entrusted to fill the important office of minister of the crown who is not prepared to support these laws in all their integrity.

"Your petitioners, therefore, do most humbly pray that your Majesty will be graciously pleased to dismiss from the royal councils your Majesty's present ministers, and to take others into your royal confidence who, whilst prepared to support the laws now in force for the protection of your petitioners, shall be more likely and more competent to sustain the honour and character of this great nation, to give stability to its institutions, and to promote the happiness and well-being of all classes of your Majesty's loyal subjects."

Any occupier of land who is of opinion that the abolition of a protecting duty on corn must needs be attended with the indiscriminate and utter ruin of all who live by the cultivation of the soil, will do well if he lose no time in coming forward to defend his interests, and those of his children after him, in the only manner he is capable of doing.

Every allegation in this document is palpably and indisputably true. The responsible advisers of the crown have manifested not merely indifference towards the agriculturists, but actual hostility. To be sure, they had not the courage to attack the farmers openly, but it was not from want of inclination they forbore. There is nothing bold and daring in their manifestations; they threaten by manœuvring, and attack by a side-wind; yet shabby and despicable as these means may appear, they are not the less dangerous. They must be promptly met, and sturdily combated, if the farmer would escape from the robbery and wrong with which he is threatened.

We anticipate that the happiest results will arise from this spirited and well-timed manifestation of feeling made by the farmers and yeomen of Cambridgeshire. Their brethren in the adjoining counties, it is to be hoped, will be roused by this document to view in its proper light the malignant feelings with which their well-being is regarded by the farmer-hating Whig-Radicals, and will promptly and cheerfully join in the example here set them of a determined resistance to unprovoked oppression. A moment's reflection will be enough to induce them to make common cause with the farmers of Cambridgeshire.

THE YOUNG FALCONER.

If we attentively consider the varieties of the human race, from the Circassian ramification down to the red man of America or the jetty inhabitant of the Gold Coast, we shall perceive as we descend the interesting chain by which mankind are linked together in the *genus homo*, that cunning becomes substituted for the more god-like gift of reason precisely in proportion to the recession of the intellectual capacity. But, as the most inferior order of man are possessed with considerable perception, we need not feel surprised that the once princely pastime of hawking should originate—if not with the simple unadulterated savage, at least with people in a state of comparative barbarism. The idea of falconry was imbibed by the human mind from observing the manner in which the hawk pursued and captured his prey; and the transition consisted in nothing more than rendering the hawk domestic, and teaching him to pursue his game in a regular systematic manner.

As far as history or tradition will carry back the inquisitive mind, it is evident hawking was well understood, and ardently cherished, at the remotest period in the eastern parts of the world, and particularly in Persia; nor did these ancient falconers confine their diversion to flying their hawks at the feathered tribes, but were possessed of fierce birds sufficiently powerful to arrest the career of the antelope and the deer, and render them an easy capture to the sportsman.

Falconry found its way into Europe from the east at an early period, and may be identified in this country, if not with the Roman conquest, at least as early as the times of the Saxons: it continued a favourite amusement with the nobility and the wealthy classes of this country for centuries, till at length it declined on the introduction of the net, was generally superseded by the use of the fowling-piece, and is only continued by a few spirited sportsmen as a generous memento of the "good old times."

Formerly the Iceland falcon was held in greater estimation than any other variety of the tribe; and we are informed that this bird, with the dusky falcon and the gyrfalcon, was reserved for the King of Denmark, who sent his falconer with two attendants annually into the island to purchase a sufficient number.

In old times, the Norwegian hawks were in great repute in this country, and regarded as bribes not unworthy of a monarch. Geoffry Le Pierre, chief justiciary, gave two good Norway hawks to King John, that Walter Madina might have permission to export a hundred weight of cheese. John, the son of Ordgur, gave a Norway hawk to obtain the King's request to the King of Norway, to let him have his brother's chattels. Ralph Havoc paid a fine to King Stephen of two gyrfalcons and two Norway hawks, that he might have the same acquittance as had been granted to his fathers.

The antiquity of falconry in Tartary is evinced by the representation of the sport on the very ancient tombs of that country.

From Germany falconry made its way into England, and became so favourite a diversion with "the magnates of the land," that very severe laws were enacted for the preservation of such of these birds as were known to propagate here, or to find their way periodically into this country. In the reign of James I. this amusement was carried to so extravagant a pitch that Sir Thomas Monson gave a thousand pounds for a cast of hawks.

The goshawk, though not so fleet on the wing as

the peregrine falcon or the gentle falcon, to say nothing of the sparrow hawk, the hobby, and the merlin, is held in much esteem in some parts of Europe; and we are told that this bird is a great favourite with the Emperor of China, who in his hawking excursions is attended by his grand falconer and a thousand subordinate officers.

The Welch had a saying that you might know a gentleman by his hawk, horse, and greyhound; in fact, a person of rank seldom went abroad without a hawk on his glove. Henry VI. is represented at his nuptials attended by a nobleman and his hawk. The ladies were not without them in earlier times.

The cinereous eagle is enumerated by Pennant amongst the falcons. Like all the eagle tribe, this bird is bold and fierce, but flies slowly, and therefore could never be successfully employed for game of rapid flights. It feeds principally on young seals, which it seizes as they are floating on the water; but it sometimes happens that it strikes its talons into an old seal, is drawn under water and drowned. The cinereous eagle feeds also on fish, especially on the lump fish and a sort of trout, as well as on auks and eider ducks.

The crying eagle is found in many parts of Europe, and is frequently met with in Siberia and Russia. It preys principally upon ducks and aquatic birds, but has been trained to fly at cranes.

The black eagle is a much superior bird. The independent Tartars train it for the pursuit of hares, foxes, antelopes, and even wolves. Marco Polo observed and admired the diversions of the great Cham of Tartary, who had several of these eagles, which were frequently thus employed.

The white headed eagle preys on fawns, pigs, lambs, and fish. It watches the motions of the osprey; the moment the latter has seized a fish, the former pursues till the osprey drops his prey, which the white headed eagle catches with amazing dexterity before it reaches the water or the ground. And, strange as it may appear, the osprey, though so persecuted by the white headed eagle, is generally seen near his haunts.

The kite falcon may be observed in vast numbers in the neighbourhood of Grand Cairo, where they breed twice a year.

Of the dusky falcon, already mentioned, it is remarkable that it has frequent disputes with the raven, but seldom proves victorious over its powerful, but less formidably-armed, opponent; the latter on being attacked, throws itself on its back, thus defending itself with its claws, and croaking most horribly all the time; its excessively disagreeable voice is perhaps more instrumental in driving off its antagonist than its talons.

Scarcely a century ago hawks were employed in this country to fly at the hare, for which pursuit the bird was prepared in a peculiar manner. Of all quadrupeds, none is more timid perhaps than the hare, none certainly can exert greater comparative strength. In flying at the hare, when the fierce bird struck its terrified game it was apt to seize the hare with one foot, and fasten the other upon a bunch of grass, a bush, or anything that was presented for the purpose: thus the hawk, though invincibly daring, not possessing a tithe of the strength of its intended victim, was very liable to be torn asunder. In order, therefore, to prevent such a catastrophe, the thighs of the hawk were clothed (with breeches as it were) which protected it from injury.

Although we have noticed several varieties of the eagle as having been used in the pursuit of game, it must be borne in mind that they could never become "birds of the fist," being too heavy to be carried on



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the hand. The birds used in this country for the purpose of falconry by the sportsmen of old, were the peregrine falcon, the falcon gentle, the tiercel, the goshawk, the hobby, the sparrow-hawk, and the merlin: it is true, in books of falconry, which have been banded down to us, we find the lanner, the saker, &c., &c., but this multifarious denomination amounts to nothing more than the same bird under various descriptions.

Those gentlemen who still maintain hawking establishments in this country generally, we believe, procure the birds for the purpose from the Continent, though most of the varieties of the falcon tribe are to be found in Great Britain, particularly in the Highlands of Scotland. The merlin (the smallest hawk seen in this country, but second to none in fierceness) visits us from more northern regions on the approach of winter, and retires on the dawning of spring. The sparrow hawk breeds in the woods in most parts of England. The hobby is met with in all the moorland districts, where it propagates its species. We have more than once observed the peregrine falcon in the highlands of Scotland—or something very much like it: indeed, we have reason to believe its eyrie is to be found in the Lochaber mountains as well as in several other parts of this rugged, but highly interesting part of our island, if not in Northumberland also.

The Duke of St. Albans (hereditary grand falconer) keeps a "cast of hawks;" these birds are also kept by several other sportsmen, particularly by Colonel Peel, who occasionally treats those who visit Newmarket during the races with this fast-fading amusement.

Hawks may be trained to fly at any game; but in this country they were principally used for the partridge, the pheasant, and the heron; the diversion afforded by the last-mentioned bird being regarded in the superlative degree; it is thus beautifully described by Somerville:—

"———Lo! at his siege the hern,
Upon the bank of some small purling brook,
Observant stands to take his scaly prize—
Himself another's game. For, mark behind
The wily falconer creeps; his grazing horse
Conceals the treacherous foe, and on his fist
Th' unheeded falcon sits; with eager eyes
She meditates her prey, and, in her wild
Conceit, already plumes the dying bird.
Up springs the hern, redoubling every stroke,
Conscious of danger, stretches far away,
With busy pennons and projected beak,
Piercing th' opponent clouds; the falcon swift
Follows at speed, mounts as he mounts, for hope
Gives vigour to her wings. Another soon
Strains after to support the bold attack:
Perhaps a third. As in some winding creek
On proud Iberia's shore, the corsairs sly
Lurk waiting to surprise a British sail,
Full freighted from Etruria's friendly ports,
Or rich Byzantium; after her they scud,
Dashing the spumy waves with equal oars,
And spreading all their shrouds; she makes the main,
Inviting every gale, nor yet forgets
To clear her deck, and tell th' insulting foe
In peals of thunder, Britons cannot fear;—
So flies the hern pursued, but fighting flies.
Warm grows the conflict, every nerve's employed;
Now through the yielding element they soar,
Aspiring high, they sink at once, and rove
In trackless mazes through the troubled sky—
No rest, no fear. The falcon hovering flies,
Balanced in air and confidently bold,
Hangs o'er him like a cloud, then aims her blow

Full at his destined head. The watchful hern
Shoots from her like a blazing meteor swift
That gilds the night, eludes her talons keen
And pointed beak, and gains a length of way.
Observe th' attentive crowd; all hearts are fix'd
On this important war, and pleasing hope
Glows in each breast. The vulgar and the great,
Equally happy now, with freedom share
The common joy. Now, like a wearied stag
That stands at bay, the hern provokes their rage,
Close by his languid wing in downy plumes
Covers his fatal beak, and, cautious, hides
The well dissembled fraud. The falcon darts,
Like lightning, from above, and in her breast
Receives the latent death: down plum falls,
Bounding from earth, and, with her trickling gore,
Defiles her gaudy plumage. See, alas!
The falconer in despair, his favourite bird
Dead at his feet; as of his dearest friend
He weeps her fate; he meditates revenge—
He storms, he foams, he gives a loose to rage—
Nor wants he long the means. The hern, fatigued,
Borne down by numbers, yields, and prone on earth
He drops. His cruel foes, wheeling around,
Insult at will. The vengeful falconer flies,
Swift as an arrow shooting, to their aid;
Then, muttering inward curses, breaks his wings,
And fixes in the ground his hated beak;
Sees, with malignant joy, the victors proud
Smear'd with his blood, and on his marrow feast."

The accompanying embellishment presents a very pleasing *coup d'œil*, nor do we know which most to admire—the chasteness and delicacy of its pencilling, its sprightliness, its genuine characteristics, or the fidelity and vigorous truth with which it has been transferred to the copper. The dress of the rider indicates correctly enough the locality. Scotland abounds with lakes and streams, well stocked with the scaly tribes, where consequently herons will abound.

ON GRASS SEEDS.

Farmers at present have paid very little attention to the habits and properties of individual seeds—their custom generally being to purchase a mixture at the recommendation of their seedsmen. It would be better if they endeavoured to ascertain the character and uses of each, singly. As far as our experience has gone, we will endeavour briefly to supply the desideratum—beginning with the seed in most places called *Timothy* seed, which ought to be sown at this season.

This seed is the best adapted of all for fen and marsh meadows. No quantity of rain or duration of flood will injure or destroy it. It grows thick and luxuriant, mastering the barren grasses and weeds; and though somewhat coarse to the eye, is relished exceedingly by all the graminivorous genus. It is not much known in the south, but has for some years been a profitable growth in the Lincolnshire Fens, especially for seed. We know a sixteen acre piece which has been cut for the latter purpose six years running, producing upwards of $1\frac{1}{2}$ cwt. per acre, at 7s. per cwt.—a pretty good return—there being no working expenses upon it, but getting and threshing. Moreover, the straw is, afterwards, most excellent crew yard fodder, horses and cattle, and even pigs eating it with avidity, and doing well upon it.

W.

THE TRAPPISTS—THEIR LABORS IN CULTIVATION, AND THE EFFECTS OF THE EXAMPLE.

(FROM BINNS'S BEAUTIES AND MISERIES OF IRELAND.)

"Being provided, by the kindness of Colonel Curry, not only with a note of introduction to the Rev. Mr. Ryan, the superintendent of the Trappist Settlement at Mount Melleray, but with a horse and servant to convey and accompany me thither, I set off to inspect that interesting and singular establishment. Mount Melleray (a name given by the monks themselves) is situated near Cappoquin, in the midst of a vast tract of barren heath, on the side of the Knockedown Mountains, which were covered with snow. The buildings are of immense magnitude, and though certainly striking from the loneliness of their position, and interesting from the associations connected with the history of their inhabitants, have nothing to recommend them as specimens of agricultural beauty. They strongly reminded me of the drawings of the Hospices on the Alps. Mr. Ryan received me with great politeness, and shewed every disposition to communicate information on the subject which had induced me to obtrude upon his privacy. In 1831, it appears, seventy-eight monks, who, during the previous fifteen years, had lived happy and contented under the direction of M. Saulmer, employing themselves in cultivating the barren lands of Brittany, were forcibly expelled from the Monastery of La Trappe of Melleraye—their expulsion being attended with acts of brutal violence, 'accompanied' (to use the words of Mr. Ryan) 'by many atrocious circumstances, based upon accusations the most stupid and calumnious.' On arriving in Ireland, Sir Richard Keane granted them, at a nominal rent, six hundred statute acres of moor and bog land, on a lease of a hundred years. This they instantly began to cultivate; they at the same time began to raise their extensive buildings; and it is a remarkable fact—a fact, by the way, which speaks with singular emphasis against the indispensableness of a compulsory church—that though possessed of only *one sixpence* on their arrival at Mount Melleray, they raised, within the short space of three years, a series of structures that would have cost, if paid for at the usual value of work, not less than 10,000*l*. They were, however, gratuitously assisted in their stupendous undertakings (for such they may indeed be called), by the people on every side. In a country where tithes have nearly ceased to be collected, a small company of religious men (sixty in number), have succeeded, though penniless, in converting a wilderness into a fertile place, and in planting in that wilderness an immense and costly habitation. This can only be accounted for by the fact, that the religion they professed was the religion of the people, and that the people honoured and respected them for the virtues that adorned it. The monks of Mount Melleray, when I visited their establishment, had 120 acres under cultivation, yielding fine crops of rye, oats, turnips, and potatoes. Their gardens, too, abound in every variety of vegetables. They have planted, moreover, 120,000 forest trees; so that in a few years, the face of the country, so lately brown, and bare of beauty, will be covered with verdure. Besides the land granted to the Trappists, Sir Richard Keane had 5,000 acres of bog, all of which was untenanted and uncultivated: since the settlement of the monks, however, the whole of it has become tenanted, and is now undergoing cultivation. Buildings are springing up on every side, and the barren

waste is gradually changing into a fruitful and smiling land.

"The Trappists are of the Cistercian order, and their object is to educate the poor, to promote agriculture, and to improve the general condition of the people. They observe the strictest silence—no one being allowed to speak, except to his superior, and live in the most exact conformity to rigid rules. All rise at two o'clock in the morning, both summer and winter, and engage in the exercise of devotion from that hour till six. Seven in the evening is their time for retiring to rest. The dormitories are very large—the chapel was lighted with tapers, dimly and gloomily. Some of the monks whom I saw, wore woollen dresses, of the natural colour, having large hoods. Before leaving Mount Melleray I partook of the hospitality of the superior, who supplied me with some excellent bread and butter, both of them the produce of the land belonging to the brotherhood. The bread contained a considerable portion of rye. The inmates of Mount Melleray live exclusively on vegetable diet; and never touch wine or fermented liquor, except as medicine."

BONE MANURE.

We congratulate our agricultural friends on the erection of a Steam Engine in this town (Trood's) for crushing bones.

In the experiments hitherto made, light dry soils are most benefitted by bone manure; such as dry sands, limestone, chalk, light loams, and peat. It is true that some experiments have shewn an excellent result from their application to even wet, heavy soils, but this happened chiefly in the dry seasons of 1826 and 1827. Those who theoretically recommend crushed bones for such soils, because they will render them more friable, forget the small quantity in which they are employed.

The employment of crushed bones as a fertilizing substance is not of ancient date: it was not one of the manures even mentioned by the early agricultural writers, and for this disuse of bones, several causes contributed. The necessary machinery for crushing them, was in the early ages of the world totally unknown. And Bones when uncrushed, dissolve in the soil far too gradually to be of any striking immediate value as a fertilizer.

Our Saxon forefathers, therefore, although they employed several artificial manures, such as chalk, lime, and marl, had not this in their list of fertilizers, nor do any of the first British writers on Agriculture even mention bones as an agricultural agent.

The refuse matters produced by the ivory and bone turners, and cutlers, which when the manufacturers of Sheffield began to flourish, speedily accumulated in considerable heaps around the turners' shops, first drew the Yorkshire farmers' attention to bone manure. The cultivators of the poor soils in the neighbourhood of that town, began towards the conclusion of the eighteenth century, to carry away these refuse matters with some readiness, and the turners were at first too glad to be relieved from this bone rubbish, to think of charging them anything for the valuable manure they thus freely carted away.

As however the Yorkshire farmers soon began to scramble for these refuse bone turnings, the Sheffield manufacturers speedily made a small charge per load for them, which has since gradually increased in amount.

It was principally owing to the discordant statements of the West Riding farmers, with regard to the value of these bones, that the Doncaster Agricultural Association, some years since, seriously entered into the investigation, and in consequence addressed a circular letter of inquiry to almost every agriculturist of eminence, who had then tried this substance as a manure.

Although the answers to this circular were extremely discordant, yet, when the condensed report of them was published by this society, it effected the great good,—it materially, and pretty generally excited the attention of the English farmers to a new, easily portable, and powerful manure,—a manure moreover especially valuable on the poor, light inland, and consequently difficultly manured soils.

In the last twenty-five years, therefore, the consumption of crushed bones has been steadily increasing; and if it was not to a very many, even intelligent farmers, a mystery “how a bone can be a manure,” the consumption of pulverized bones would long since have been only limited by the possible supply.

GENERAL DIRECTION.

The crushed bones have been invariably found more immediately beneficial as a fertilizer, when suffered to remain previously for some weeks, mixed with earth in heaps, exposed to the action of the atmosphere. By being thus fermented and dissolved, they are necessarily more speedily serviceable as food to the plants to which they are applied, and this observation more especially relates to the oat, barley, and other spring corn, since these do not remain on the ground for so long a period as other agricultural crops. The proportion is 50 bushels of bones with 5 loads of earth or clay; or 40 bushels to 5 loads of common dung.

For Wheat and Pasture Lands, the previous fermentation of the bones for this season, not so essential to the production of immediate benefit.

It is impossible to give any general directions for the quantity of bones to be applied per acre, since soil, situation, and climate must all be taken into the farmer's consideration.

The following facts however have been ascertained by numerous experiments, at some of which I personally assisted.

I. That crushed bones remain in the soil, for a length of time proportionate to the size of the pieces; the dust producing the most immediate effect, the larger pieces continuing to shew the longest advantage. On Arable Land their good effects continue for four years; on Pasture Land for eight.

II. On Turnips, Oats, Barley, and Wheat, the quantity applied has been from 25 to 30 bushels, per acre; on Pasture Land, from 25 to 40 bushels of bone dust, early in the spring.

III. The best mode of application is by the drill, with the seed corn.

IV. The bones should, when first used, be always applied for the sake of correct information, in varying quantities per acre; and on no account, should the farmer omit to leave, by way of comparison, a fair portion of the field, without any manure.

A farmer, however, near Nantwich, relates that on a clay loam scarcely twelve inches deep, on a subsoil of grey sand mixed with clay, he finds that bone manure causes a good herbage of white clover and trefoil to grow where only sour grass grew before.

From the result of the enquiries of the Doncaster Agricultural Association, it appeared to be the opinion of those who had employed crushed bones,—that they are superior to the best stable manure;—

In respect to the quality of the corn, as 7 to 5	
_____ quantity _____	5 — 4
_____ durability of effect _____	3 — 2

They have been long used for turnips, to a very great extent on the light sands of the Wolds in Lincolnshire; the farmers of that great agricultural county have no doubt of their value.

USE AND ABUSE OF BONES AS A MANURE.

(COMMUNICATED BY THE DUKE OF PORTLAND.)

In 1834, two fields of sand land adjacent to Clumber Park, the one at right angles to the other, each containing about 20 acres, were sown with seeds among barley; whenever these fields had been sown with turnips for 20 years before 1835, they had always been manured with bones; in that year they were largely so manured. The seeds sown with barley in 1826 having been burnt up in that dry summer, in 1828 the land in both these fields was again broken up. In 1829 it was again fallowed with turnips and manured with bones. In 1833 both these fields were again sown with turnips, parts of each of which were manured with bones, and the remainder with farm-yard dung.

In 1834, when the corn was cut, it was found that the seeds had failed in each of these fields where the bones had been applied; and that they were very good where they had been manured with dung. In one of these fields the failure exactly followed the line of the difference of the manures, with two exceptions, that the seeds did not quite fail in two spots where formerly there had been dung heaps. In the other field the failure did not so exactly follow the line of demarcation, but the exceptions were very few. Generally speaking, the manured land is better than the boned land, but the difference of quality is not great, the crop of barley on the manured land had been at the rate of five quarters per acre, on the other four.

Immediately after harvest fresh seeds were sown on the boned land, they came up very thick, but in six weeks died and disappeared. During the winter the land was again fallowed, and fresh seeds were again sown in the spring of 1835. They cannot be said to have failed, but they were a very inferior crop, and notwithstanding a manuring of farm-yard dung applied as a top dressing the following spring, they have not yet recovered a parity with the rest of the fields. In this case it seems impossible to attribute the failure of these seeds, where they have failed, to any other cause than the bones, which had certainly been applied with unusual abundance; and it is the more surprising that such a cause should have produced such an effect, because in the early periods of the use of that manure it appeared to be in no respect more advantageous than in its tendency to encourage the growth of the clovers. Of this tendency, the most remarkable instances have been repeatedly seen on very poor land, and none more so than one which occurred on a very poor piece of land prepared for a plantation by a crop of turnips, manured for with 40 bushels per acre, on which between the trees a great deal of clover has spontaneously sprung up. Previously to this land having been broke up for turnips, scarcely a plant of clover was to be seen. Now the fields on which the

seeds have failed had (as above stated) received, much more frequently than usual, complete dressings of bones.

Combining the great advantage of bones on the first application of them with this failure, it seems difficult to avoid the conclusion, that as the bones while they are new to the land have produced the most beneficial effects, and as this failure has taken place where their application has been most frequently repeated, the success is in a great measure owing to the novelty, and the failure to the repetition of their application.

If the preceding statement required any confirmation, it has received it in 1837. In this year, a field, which had been turnips in 1836, had been laid down to grass. The north side of this field is very inferior sand land, and as, till lately, it was supposed that such land would not pay for the expense of bones, they had never been applied to it. For the first time in 1836 bones were used for the turnip fallow. The south side of this field, which for many years has always been manured with bones, when in fallow for turnips, was divided into four divisions; the western side was manured with farm yard dung; that next to it with bones; the two eastern divisions were manured, the one with rape dust and the other with malt culms. After harvest the seeds on the north side appeared to be best; then those on the western side of the field; then those on the two eastern divisions, which were rather inferior; and those on that where the bones had been applied were visibly the worst. The frost has been so injurious to the seeds that this difference between the three eastern divisions is not now so marked as it was before the frost; but the superiority of the northern side and the western division is very apparent.

This field lies nearly opposite to Scotland Farm, on the other side of the road leading from Ollerton to Worksop, and three miles from the latter.

DRY ROT.

In the spring of 1837, 15 pieces of wood, an inch and a quarter diameter, were stuck into the tan-bed of a Calcutta stove, five of oak, five of deal, and five of Scotch fir; of each of these one had been soaked in Kyan's solution, of the strength and for the time recommended by him; one in an imitation of the Pary's mine water, and one in green vitriol; a fourth of each was made of seasoned and a fifth of unseasoned wood, and these two had not undergone any preparation.

The two last showed the first symptoms of decay, but all the others are now decaying, and prove incontestibly that none of these preparations used according to Mr. Kyan's directions possess the property of preserving wood from dry-rot.

It is true that boards of Scotch fir, three quarters of an inch thick, soaked in green vitriol, have been taken this winter out of a mushroom bed, quite sound, white similar boards not so prepared were found to be quite rotten. But boards so thin may be supposed to be easily saturated.

Fourteen of these fifteen pieces of wood first-named are still to be seen in the hot-house here.

SCOTT PORTLAND.

Welbeck, April 4.

PROFESSOR SEDGWICK'S FIELD LECTURE.—On Saturday, April 7th, Professor Sedgwick gratified a large number of gentlemen by a field lecture upon the geological phenomena presented in this county. According to notice previously given, an assemblage of upwards of eighty academic horsemen, with numerous

pedestrians, met the learned professor at the Barnwell gravel-pits at half-past 10 o'clock, where he commenced his very interesting subject upon the diluvial formation then before them. He remarked that, on the spot where they stood, the mouldering remains of monks, who inhabited the splendid abbey in its vicinity, had lain undisturbed for centuries, and which showed in some degree the antiquity of the soil below, deposited at an epoch too remote for the records of the country, and consisting of water-worn materials, the detritus of rocks drifted from distant parts, amongst which might be collected many specimens of primitive and secondary strata. He then proceeded to the gale-pits, behind the gasworks, which afforded a most instructive and illustrative section of the prominent strata of which this flat country was formed—1st, the gravel deposited upon the chalk, in numerous places scooped out, and bearing evident marks on its surface of violent action; then the upper green sand, abounding in fossils, and lastly, the gale, which in many parts had been sunk through 150 feet, and from under which issued the copious supply of water, upon the principle of the Artesian wells, with which Cambridge and its vicinity were so much favoured. The professor then stated that all these strata abound in organic remains of extinct animals, of enormous size and peculiar formation, parts of which were at that moment exposed to view by the men at work, where they had been entombed since the catastrophe causing their destruction. After this address, the whole party proceeded at a rapid rate to Guy-hill, where the professor pointed out the natural connexion between the external form of the country and its internal structure. Thence they proceeded to the chalk hills at Swaffham, examining some of the upper chalk formation: and from thence by Reach to Upware. In this part of the journey many desperate leaps were taken, and several were dismounted by the roughness of the fen, exhibiting evident proofs that there were recent animated deposits in the gale besides the fossil organic remains they had just been contemplating. At Upware, the stone-pits, exhibiting the coral rag, were a subject of interesting discussion, and the position of the strata explained by a section. The Lamb Inn, at Ely (where a cold collation had been previously ordered), was the next object of attraction, and 51 of the original party arrived in quick succession, and investigated a series of recent specimens of organic matter, with a tact worthy of a strata-hunting geologist. A visit to the clay-pits, within a mile of the town (which were explained as having a connexion with the strata in the early part of the lecture), excited much interest; and after a day of great intellectual enjoyment and information, most of the party reached Cambridge by 9 o'clock, after a ride of 40 miles, much gratified by the urbanity and kindness shown them by the highly gifted and intelligent professor.—*Cambridge paper.*

AGRICULTURAL IMPROVEMENT.

Witnesham, April 16.

SIR,—In reply to your Harleston correspondent, I admit an error, in leaving out the words, when first found. We included all matters relating to agriculture when we gained strength, and your correspondent does not say they have excluded agricultural policy.

We petitioned for the repeal of the law imposing a penalty for not having the name, place of abode and calling, on gig carts; have established a daily post through this district, where none previously existed; prepared a petition for the repeal of the Malt Tax; are about to form an association for prosecuting felons, on a more economical, just, and (as we think) more efficient mode than those existing, and less objectionable for every reason than a rural police, and shall petition against the grinding bill, if on due consideration we object to it.

We are willing to do all we can "to help ourselves," but do not approve of depredations on our property, direct or indirect.

This, Sir, is the extent of our political department (general and local) and which, we think, is not exceeding the bounds of propriety.

If the land-owners will not exert themselves to uphold the Corn Law we must, or be placed between two fires. Many land-owners cannot afford to reduce their rents to a level of continental prices, and others will not whilst competition for land exist, and the occupiers will be driven to beat down labour wages to save themselves from ruin. To trench on the protection we have, would retard the progress of improvement and mar all the efforts of the occupiers of *old arable land* to meet the inevitable fall of prices, which must occur when the pasture land, hitherto tithe-bound by a *modus*, is brought into cultivation, and the progress of improvement in Ireland is matured. The national debt is virtually doubled from want of more efficient protection, and will be trebled if our protection is reduced.

The practical matters we have discussed are questions relating to soil, manures, cropping, storing roots, economy in feeding, pests, &c.; and have shown specimens of *progress* of newly introduced grasses, herbaceous plants, &c.; and specimens of roots and new varieties of corn and pulse, and compared the relative produce and value; several disputed questions are set at rest, and many are in progress to be solved by united efforts.

The several sorts of rye-grass, cats' tail grass, lucern, sainfoin, trefoils, &c. are placed side by side in drills to ascertain their respective values.

Comfrey and Siberian parsnip (*Miraculum*) plants are progressing nearly alike. The *Miraculum* raised from seed sown in *Autumn* is well up, but much eaten by insects; the gama grass, sown at the same time, is not up, and none of either that was sown in March is up.

Four sorts of potatoes for field culture are put in competition, and white and common carrot, and the several sorts of tares.

An apple-tree is introduced, which promises to be very useful to tenant farmers and cottagers, as it grows readily from cuttings, and will bear fruit quickly; may be kept as low as a gooseberry bush; is a good table and pie apple; may be used in July, and will keep till the Spring; blossoms late, and thus escapes injury from the frost; a portion of the fruit grows double or treble, in the same manner as the walnut, and in this respect differs from all others we have seen. I could have shewn a specimen in a pot, with several apples upon it last Autumn, and shall be disappointed if I cannot next Autumn. Part of a field near by is trench ploughed, and the result will be seen and reported; and another experiment in ploughing is in progress.

Various manures are being tried, and the properties of manures in general will be explained in a lecture promised to be given by a gentleman who is duly qualified; and his son, who also has studied agricultural chemistry, and four other gentlemen from Ipswich and Woodbridge have joined our club, will assist us in ascertaining the cause of mildew, blights, and insect pests.

These and various other matters have been attended to; and if we do not "assist ourselves," the pursuit is interesting and rational, and leads to social intercourse, and cheers the dull monotony of a secluded life.

We cannot establish a cattle show, nor is it a sheep district; but we have a few sheep, and may

show a few fleeces of wool of singular weight and quality merely for curiosity.

Of implements we have choice in Ransome's ample repository; chaff-cutters, that a boy may use, to such as require a truss of hay to feed, and will cut up a stack in a day; and all other improved implements, and machines in great variety; and it seems impossible to go further in improving; yet in all probability something may be added. Still, although the rolls used on arable land are much improved of late years, they are faulty in one respect; thousands of poor boys have been plodding along from morning till night for this month past, leading horses in rolls, and will be so during the summer, as in all times past, with their feet flayed from the heat of the land and dust, or their shoes ground up in a week by the clods, as it may happen; yet the principle of the roll is pressure, and is frequently loaded to increase the weight. We shall try our hands to remedy this evil. If the New Central Society were to offer a handsome premium, the object would be accomplished.

I remain, Sir, your humble servant,

CHARLES POPPY.

TURF DRAINING.

(FROM A CORRESPONDENT.)

Being a constant reader of your valuable and widely-circulated Journal, and knowing that you are at all times ready to insert any permanent improvement of the soil, indeed I should be wanting of common feeling if I did not communicate to you a noble act, which is a great stimulus to the industrious labourer. Lord St. John, of Melshbourne, near Bedford, offers a prize of 12*l.* annually for Turf Draining, which took place in one of his Lordship's fields on Friday week last, the 4th inst. The 12*l.* was divided into six parts, for which there were 46 competitors, and I may freely add that, except one, all did great credit to themselves; indeed it was a difficult task for the Judges to decide the three last prizes, as there were seven equally well done, only not quite so good a finish. The Judges were Mr. Anderson, of Oakley, Beds.; Mr. Thorp, of Ditton, Hants, and Mr. Bickett, of Rade, Northamptonshire.

H. G.

The prizes were awarded as follows:—

		£	s.	d.
1st prize to John Robbins Crawford, Northampton	.....	4	0	0
2nd do. John Robbins Risley, Beds.	.....	3	0	0
3d do. Richard Baldock, Toft, Cambridgeshire	.....	2	0	0
4th do. John Denton, Northampton	...	1	10	0
5th do. James Stock, Meshbourn, Beds.	...	1	0	0
6th do. James Perkins, Risley, Beds.	...	0	10	0
		£12	0	0

There were a many lookers on, amongst whom were the Marquis of Tavistock, the Rev. Mr. Beard, Cranfield, S. C. Higgins, Esq., of Turvy, and a many other gentlemen from adjoining counties, whom the writer did not know; at one time there were upwards of 600 present. After the prizes were awarded the Judges, with other gentlemen, partook of the Noble Lord's hospitality, of the best the season could produce, and finished the evening with some of his Lordship's choice old Port.

CENTRAL SCHOOL OF HORTICULTURE AND AGRICULTURE.

ADVANTAGES OF BOTANICAL KNOWLEDGE TO THE FARMER.

To the Right Hon. Earl Spencer.

MY LORD,—I have been much gratified by learning, from the second edition of the last *Gardeners' Gazette*, that we are to have two societies for the promotion of agriculture as a science, calculated not to interfere with each other, but by a judicious division of labours, and I hope mutual support, to advance the common object of both. Allow me to hazard a few suggestions respecting them.

It is now for the first time proposed to set about, in earnest, the application of the subsidiary sciences of chemistry and botany to agriculture. The field of chemical discovery will perhaps be best explained by the society projected by the Duke of Richmond and yourself, consisting as it will chiefly of experimental agriculturists; while that of botanical research will be as appropriately consigned to the *Central School of Horticulture and Agriculture*, which embraces those who are most eminent for the study of the natural history and properties of seeds and plants. To the importance of the former object the English farmer is fully alive, but to that of the latter his attention has not yet been sufficiently directed, and I will therefore briefly point out two or three of the many advantages which the dissemination of botanical knowledge by the Central School, will confer upon him.

In order to turn his pastures to the best account, it is necessary that the grazier should consult the natural taste of his cattle. Cows, horses, and sheep all differ in their tastes, and are more partial to one sort of grass than another. Linnæus gives us a detailed account of more than two thousand experiments, made by himself and friends, on this point, of which the following is a summary:

Of 494 sorts offered to oxen,	they refused 218.
Of 575 do. do. goats,	they refused 126.
Of 528 do. do. sheep,	they refused 141.
Of 474 do. do. horses,	they refused 212.
Of 243 do. do. swine,	they refused 171.

Considering, therefore, the promiscuous herbage of our pastures, we cannot wonder that they are overrun with grasses which the cattle will not touch. Indeed, from neglecting the material point of suiting the palates of our cattle, grasses odious to the taste, choke and destroy the good. The *barren* grasses are also allowed to do the same, such for instance as the *carex* tribe in most situations, and the bent and hard grasses everywhere.

Another point of consequence is the adaptation of seeds to the soil, some preferring a dry, others a wet soil, and so on. Now, every farmer knows how to suit his *grain* to the quality of his soil, but very few are acquainted with the nature of the grasses which they should select for the different varieties of land they may have to lay down or replenish. In either operation a judicious choice of seeds is everything; for, contrary to the case of grain, seeds ought to have grown, and grown favourably, on the same sort of soil as that on which they are intended to be sown. The dissemination of botanical knowledge by such a society as "the Central School of Horticulture and Agriculture" would soon enable the intelligent farmer to judge a sample of seeds even better than

he now does a sample of grain; for it would instruct him not only as to the *name* and *soundness* of the seeds, but, from observing the seeds of the indigenous *weeds* in the sample, to detect upon what sort of soil they had been grown.

A volume, my Lord, might in this manner be written to illustrate the uses of botany in agriculture; but I will only mention one more. In England, the advent and the temperature of the seasons are so very uncertain, that the spring operations of agriculture are mostly at a venture and frequently fail. Theophrastus, the parent of natural knowledge, and Hesiod after him, laid down rules for this difficulty, derived from the migration of birds; but Linnæus invented a far more correct *thermometer* (if I may so call it), in the budding and leafing of particular trees, and the blowing of particular flowers. He made observations of this kind in every country he visited, and gives us a list of a great number of persons he employed to communicate to him the results of similar experience. Fanciful as this may at first seem, it is only taking nature for our prompter and guide. I have however exceeded the limits I intended; and cordially wishing your society, and its elder sister the *Central School of Horticulture and Agriculture*, success proportionate to the benefits they are calculated to ensure.

I remain your obedient servant,

A BOTANIST AND AGRICULTURIST.

MANUFACTURE OF SALT FOR DAIRY PURPOSES.
—The Dutch are remarkably particular as to the proper quantity and quality of their salt, of which there are three kinds manufactured. The small salt for butter, which is somewhat smaller than the common salt made in this country, is boiled or evaporated in twenty-four hours. This kind is also used, as already mentioned, in mixing in some districts with the Kanter cheese. The second salt is evaporated by a slower process, in about three days; it is used in salting by outward application, the Edam, Gouda, and in some places the Kanter cheeses. This kind is beautifully formed in the natural crystals of about half an inch square. The third kind is larger sized; the crystals are nearly an inch square, and the evaporation process lasts four or five days. It is sometimes used for salting cheeses by outward application, but principally for curing fish, beef, pork, &c. The Dutch pay great attention to the exact quantity of the particular kind of salt necessary, so that we never find the cheeses made in Holland salted to an intolerable degree, as we sometimes experience in this country. I (says Mr. Mitchell) endeavoured to discover the mode of manufacture, and learned some particulars on this important subject, but there appeared to be some secret in the process which the manufacturers were unwilling to disclose. One thing is certain, that the use of the Dutch salt is one of the causes of the sweet and delicious flavour of their butter, which, although always well flavoured hardly tastes of salt, or rather of that acrid quality which the poisonous bittern of the muriate and sulphate of magnesia pervading our common salt imparts to our butter: and this is very obvious in comparing the Dutch butter with the best salted butter of this country. When it is considered that the health and prosperity of the people are materially concerned in the use of this article in so many various ways, the propriety, or rather necessity, of improvement in its manufacture will be the more evident; and it is rather remarkable that while chemistry has now advanced to such perfection, no change has taken place in the mode of making salt for several centuries. The late scientific Earl of Dundonald, the late Dr. Coventry, and the Rev. James Headrick proposed important improvements in the mode of manufacture of this article, which, however, seem never to have been adopted.

WONDERFUL SUBTERRANEAN FOREST IN LINCOLNSHIRE.

The history of the early ages of the Christian era, however scanty, furnishes us with the records of many local convulsions, by which the face and character of extensive tracts have undergone vast and singular revolutions; but time or accident have developed a still greater number, of which even tradition has preserved no account. Of the latter class, perhaps, the immense subterranean forest, which lies buried under certain fens between Lincoln and Boston, is the most wonderful in Britain; although its existence is almost unknown, except to the thinly scattered population of the district. A short description of it may prove not unamusing, and per chance may direct some tourist or geologist to a spot where he will find wonders amply sufficient to reward the labour of observation.

The soil of the fens alluded to consists mainly of *rotted wood*, mixed with a sort of earthy deposit, evidently left by the subsidence of a large body of water. On passing a lately ploughed piece, a stranger is surprised by observing heaps of wood, many loads to the acre, piled up over its surface, as if a crop of huge black logs had succeeded to the previous one of corn. These have been torn up by the plough; and it is singular that after forty years of tillage, the yield of these logs in many places continues as great as ever. The occupiers ascribe the phenomenon to the gradual rising of the forest, which lies *prostrated* a foot or two underground, though it is probably caused by the sinking of the top soil into a boggy substratum, which is called the *sack*. In pasture pieces, the trees force themselves up entire, announcing their approach to the surface by the decay of all verdure above them. When a farmer observes this indication of a tree rising, he digs down to it, and removes it from its bed of centuries, and is frequently well rewarded for his trouble. The trees are all oak, and frequently of dimensions which would almost stagger belief. Some years ago we saw one taken up which contained no less than 1,440 cubic feet of timber; and so recently as the winter of 1835, we removed another, the bole alone of which contained nearly 1,000 feet. The wood of these gigantic monarchs of the forest, when first bared, is soddened with moisture and apparently rotten; but after a short exposure to the air becomes so hard that none but the best tempered tools will touch it. It is nevertheless easily worked into rails and fencing, because the grain is so straight that it rends like a reed. Many gentlemen, too, in the neighbourhood, have a few plain articles of furniture manufactured out of it, as matters of curiosity, as in time it becomes not only as hard, but as black as ebony, and is capable of the highest polish.

In most of the fen districts, the improvement of drainage and navigation has been actively prosecuted for some years, in forming more direct channels for the river and cutting large catch-water drains through the country; and when in the execution of such works long and broad lines are laid open by excavation, then we descend, as it were, to this forest Pompeii, and see these once stately occupants of the land in the spot where they fell under the ravages of the ocean, or the desolation of the hurricane. Every tree is either plucked up from its roots, or snapped short off about three feet from it; and all appears to have fallen pretty much in the same way. An ingeni-

ous friend of ours once remarked to us, that Cæsar mentions an immense forest in this neighbourhood, the circuit of which cost him several days march, with the view of hunting down the Britons, and that he probably destroyed it as one of their fastnesses. But that the destruction was not effected by the hand of man is evident, from the splintered state of the trunks, to say nothing of the almost human impossibility of such an achievement at a time when the mechanical powers, by which such trees can only be torn up by the roots, were wholly unknown. Besides, our friend's hypothesis is good for nothing, unless he will contend that Cæsar not only annihilated them, but *buried them too*. Several years observation near the place convinces us, that at some distant date an irruption of the sea must have done the havoc, aided, perhaps, by one of those tornadoes which even now, in a milder degree, are occasionally experienced thereabouts. Our Lincolnshire readers will remember something of the kind happening at Tumby wood, nine or ten years ago.

EARLY POTATOES.

Late as the season is, and propitious as has been the month of March, to all the operations of the garden, it is probable that many *ash-leaved kidneys*, and other early varieties of the potato, are yet to be planted. The ordinary method of setting is not strange to any cottager; but few, gardeners or others, are aware of the real advantage, which attends a more scientific mode of proceeding. Our present object, however, is to secure all the first developments, those produced from the crown germs, from frosts, which are ever liable to occur, even in May. There are two trees which by some have been judged to be criterions of settled weather, and hence have been termed the *wise trees*; they are the *walnut* and the *mulberry*; but it must be in the recollection of many, that in the morning of the 7th of May, 1831, after a fine and growing April, a frost of five or six degrees occurred about three o'clock, which cut off all the leaves of the ash; blackened, as if by fire, whole breadths of potatoes, and destroyed hundreds of greenhouse plants, then hardening off in coal pits, previous to final planting out. On that morning, my *too early-wise* mulberry lost four or five inches of its terminal fresh made shoots; hence there is no rule without its exception.

In order, therefore, to be quite sure, let the plot of ground (a light *sandy loam* if possible) for the early potatoes be laid out in trenches, like those for celery, about one foot wide, nine inches deep, and thirty inches asunder—each to point, as nearly as possible, north and south. Dig into each a good proportion of semi-decayed leaves, a year or two old; and thus, leave the surface soil of each trench five or six inches below the level of the ground, the earth out of the trenches standing in sloping ridges on the sides of the trenches. Strain a line down the centre of a trench; place the tubers of the ash-coloured kidney *whole*, five inches apart along the line, the lower ends just so deep as to support them upright, the rose or crowns being uppermost. Draw earth from each side of the ridges till it cover the potatoes to the depth of one inch and a half, and finish with an inch of leaf-sittings, or any light fine litter.

Ash-leaved kidneys have few eyes, and rarely

admit of being cut; the early frame, the early Scotch, &c., may be divided; and in that case, each cut side might with advantage, be dipped into air slaked lime, which will absorb the juice, and defend the pulp from grubs. As the shoots become visible, and advance, draw fine earth from the ridges against them, especially on cold clear evenings; and repeat the earthings till the bed be level. The potatoes will then not be deeper than in the ordinary plantings; the ridgings or earthings-up will be completed, and one digging between the rows will finish the business, leaving the ground in a free condition, open to the rain, and to the power of the sun, which at mid-day will pour its streams of light along the entire rows, keeping them upright, and effecting all that it is the office of solar effulgence to produce upon expanded foliage.

J. T.

March 29.

TO THE EDITOR OF THE INDEPENDENT PRESS.

SIR,—As spring is the time to prepare for summer, allow me, through your paper, to make a few remarks to naturalists and bee-keepers. It is to increase the culture and improve the management of the hive-bee. Some persons have said "how will you do it? for bees are kept mostly by cottagers, and to make them do any thing out of their old plan is as easy as to make them gather honey at once." The prosecution and encouragement of any system of bee management, undertaken by those who are qualified by their means, abilities, and power of patronage to set the example, and thereby influence others, will effect this to a considerable extent, as far as the production of honey and wax is concerned, will, I think, be sufficiently obvious to those who have witnessed, or who hereafter may witness, the successful results. The hive-bee has engaged the attention of the curious from the earliest ages. Recent discoveries prove that we are yet only beginning to arrive at a correct knowledge of its wonderful proceedings. Pliny informs us that Aristomachus, of Soles, in Silicia, devoted fifty-eight years to the study; and that Philiscus, the Thracian, spent his whole life in forests for the purpose of observing them. But, in consequence of the imperfect method of research, assuming that what they did discover was known to Aristotle, Collumella, and Pliny, the exact amount annually paid to other countries for these two commodities, honey and wax, I have not the means of ascertaining with accuracy, but it is probable that it exceeds 350,000*l.* a sum lost to this country because, not only have we in the vegetable world, a profusion of those productions that

"Waste their sweetness in the desert air,"

but we have, or might have, if we would but encourage them, the labourers necessary to collect them, and this, too, without the deterioration of any other department of rural economy. I know of no means so decidedly calculated to foster the culture of the honey-bee among all classes, and among more particularly the population of rural districts, as aparian societies, formed for the express purpose of extending and improving the cultivation and management of honey-bees. Hoping

to see some persons come forward to form a society like the above will be my heart's desire.

I am, Sir, yours, &c.,

A BEE-KEEPER.

We agree with the writer of the above letter that, with a little more attention, large quantities of honey might be collected, to the great advantage of the cottagers, and at little expence. The simplest and cheapest way to be followed by the cottagers is this—The old fashioned straw hive should be made with a wooden top about the size of the crown of a man's hat, in the centre should be a round hole about two inches and-a-half in diameter, stopped with a bung. As soon as a hive has thrown its first swarm, a bell glass capable of containing from six to ten pounds should be placed on the wooden top, the bung having been first taken out, and an empty hive should be placed over it, and secured that it may not be blown off by the wind. If the honey harvest is a good one, this glass will be speedily filled by the bees. It may then be removed and another substituted in its place. As soon as the young swarms have nearly filled their hives, the same thing may be done with them, with the same success if the harvest be good, and the hives strong and vigorous. Thus large quantities of the purest honey may be obtained with no injury to the hives, and without the loss of a single bee.

TO THE EDITOR OF THE NORWICH MERCURY.

Redenhall, April 4, 1838.

SIR,—I did not contemplate replying to any remark which might arise from my recent address to your valuable Journal, but a Friend to Improvement has very properly deemed it judicious to correct my errors, which will be a more perplexing task than attempting to kick overboard spade cultivation.

It appears he has impeached me as liable to two accusations. From the first I am absolved through your Journal, and the second I cannot easily surrender without assuring him that I am not surprised at his imagining the quantity of manure ought to have been reversed, viz. 16 loads for the dug, and 8 for the ploughed. I beg to notice, that unless I could amply have borne out the statement I should not have quoted it; but from the various experiments I have made in spade cultivation, I have more frequently had as much produce in return per acre without as with the plough when properly manured, inasmuch that the first time of digging deep and adhesive land I frequently abridge or abandon the use of it; my reason for which is, that owing to the land having for many years been ploughed to a certain depth, an accumulation of liquid from repeated application of manure has a tendency downward, impregnating the under stratum, upon which when brought to the surface, the atmosphere has its influential effects, without which the most determined efforts will be pregnant with great risk; and I conceive whenever any adhesive subsoil is brought to the surface, which has been excluded from the sun and frost, one of the principal reasons why that greatest of all evils, prejudice, has so long prevailed in opposition to deep tillage, for when an original stiff subsoil has attained a natural friability by weather alone, then it is rendered serviceable for the production of crops. I beg the friend to improvement to understand that my allusions on subsoiling were not directed either in Sprowston or Rackheath,

and that my "sarcastic remarks" which appear so indigestible, were applied to stiff soils only, which he will clearly see on re-perusing my letter. If he imagine I am opposed to the operation of the subsoil plough in the parishes cited, he is mistaken. I consider the writer has not vitiated my argument, for there remains no doubt as to the efficacy of subsoiling on any land subject to drought, particularly those inclined to scorch, although on such soils it would be very injudicious to plough deep and bring a poor gravel or sand to the surface. I am glad to find that the alteration of Sir Edward's plough is yet practicable, and if the ingenuity of the writer can accomplish so desirable an improvement, calculated for all soils, he will confer a real benefit on the community; but should any anonymous friend (I hope a practical farmer) feel inclined to explain *verbally* or to correspond *publicly* on any skilful trials for the furtherance of agriculture, my services are at his command, as differences of soils must naturally lead to critical disquisition. I therefore advise the Friend to Improvement to eradicate in age the sentiments imbibed in youth, and avoid by all means a dangerous error, that of taking *no experiment upon trust*, but *all upon trial* for my motto is, "practice and then preach," but "no practice no preaching."

I am, Sir, yours, very respectfully,

JOHN GEDNEY.

NEWLY INVENTED PLOUGH FOR TILLING STEEP SLOPES.

TO THE EDITOR OF THE FIFE HERALD.

SIR.—The Highland Society, taking into consideration the great loss of time incurred by the present mode of tilling steep slopes with the common plough, have offered a premium for the best form of one that will till at right angles to the slope, and lay the furrows all to the declivity. I have made a drawing of a plough with a view to accomplish this object, and shown it to a few eminent agriculturists, who highly approve of it, and recommend that one should be made for exhibition this season. It is to consist of two mould-boards set in opposite directions, both on the same side of the plough, with coulter and sock to each, and a pair of stils attached to both ends of the beam. The plough is to be drawn by means of an iron rod that moves upon a socket, to allow the horses to turn without turning the plough. In this way it will work in both directions, laying all the furrows to one side, doing double the work of the common plough in the same space of time.—I am, &c.

ANDREW SYMINGTON.

Kettle, April 9, 1838.

LONGEVITY OF TREES.—Evelyn describes a yew tree, in the church-yard of Brabourne, in Kent, which he measured in 1660, when it was superannuated the circumference of which at the base was all but sixty feet, giving a diameter of not less than 2880 years, and if it still exists, says Decandolle, we may set it down as being of the age of 3,000 years. Nothing is now, however, known of it, but in its place there is one not above four or five yards in circumference at the very base, no tradition exists concerning the former, nor does any vestige remain. As the nearest proximation to it that Kent affords, two are to be met with in the church-yards of Statesfield and Easing, near Charing, which measures nine yards in circuit, at the height of four feet from the base—the former hollow, the latter sound; giving, at the rate of one line of diameter per annum, an age of 1,296 years.

BILL FOR GRINDING WHEAT IN BOND.

I agree with Rusticus's letter in your paper of the 9th inst., that the simple and truly efficacious way of giving out wheat in bond to be ground, is to do so by weight only, but I go further and say, that instead of delivering on bonds to be returned ground, the duty of the day should be paid at the delivery, and leave it in the option of the grinder to return or export within two months from delivery, certain proportions of fine flour, seconds, thirds, and bran, on evidence of which, to receive back the duty; and as this is the general way of reckoning with millers when wheat is delivered them to grind *on hire*, it is found practically to be a sufficient protection to the proprietor of the wheat, and must be equally so to the protection of the duty. The proportions of produce are perfectly known to the trade. I submit the accompanying schedule will not be gainsaid, but, of course it is open to the public for their remarks.

I would further submit, that for any part of the produce not returned, there should be a deduction corresponding to schedule; one is also herewith submitted for remarks; it is calculated on the duty of flour, which is laid at about 2s. 6d. per quarter above that of wheat. The coarse and the bran only would be the article not returned.

Some timorous individuals may suspect that evil will arise to the agriculturist from keeping the produce of foreign wheat, and substituting that of British; such an attempt will only be made once, as flour is so inferior for warm climates when made of British wheat, that the probability is it would become stale and be lost: besides, equal quantities of British and foreign must have always the same effect on our markets, consequently no evil can arise to the agriculturists. The only thing he should fear is delivery under bond, whereby a great inducement is held out to smuggle away the produce while manufacturing, and then there are only names on paper to look to, besides difficulty in obtaining evidence to convict.

I am Sir, &c.

MERCATOR.

PROPOSED SCHEDULE.

1. All wheats under this act shall be delivered by the weight of sixty-two pounds, eight of which shall be a quarter.

2. No quantity less than ten Quarters shall be delivered at any one time, viz. 354st. 4lb. imperial.

3. That every person claiming under this act a return of duty, shall within two months from the day the duty was paid, produce a certificate by the proper custom-house officer, that he has for every ten quarters wheat, either exported or put into bond

250 stones fine flour, quality satisfying the inspector; also

20 „ seconds, ditto or in lieu thereof 2 cwt. second biscuits.

20 „ third flour, or in lieu 2cwt. common biscuit.

60 bran.

350

That if there is any part of the fine flour found deficient, duty thereon shall be charged at the rate foreign flour paid on the day the wheat was taken out of bond.

If second flour is found deficient it shall be charged at half the duty on the fine.

If third flour, at one fourth fine; and bran at one twentieth of the fine.

TO THE EDITOR OF THE MARK LANE EXPRESS.

I read your publication regularly because it contains such an extensive collection of facts calculated to enlighten not only the ignorant, but the philosopher, and from which may be deduced the most useful lessons.

I was pleased in reading an account recently published by you, of the trial made of work done by horses in waggons and in single horse carts, and have no doubt it has made a general impression of the economy of the latter, but as some may still be sceptical from its being merely an experiment, for which an allowance should be made, I give you a short account of what my horses have been working for years without ever getting damage by their work. Their journeys are from three to thirty-six miles at a turn, principally employed in three journeys of thirty-six and three of eighteen miles every week, that is, they travel at an average about 160 miles per week, one half of that distance empty, each horse draws 18 cwt. to 22 cwt. as the road proves, besides the cart which is upwards of 10 cwt. In *very* short distances occasionally their gross is 46 cwt. but this is only on a case of necessity, and the distance three miles. My experience as to the number is limited, and therefore would not consider as a data for the best description of horses for working on the road, but as far as it goes, it has convinced me that the more blood if size, the better. I have one half-bred which has been about half a dozen years at that work, never lost a day, and has not now a spot or speck. I have two others nearly thorough, which are more active, and proved less fatigued and better feeders; if I could get them full blood I would prefer them. As to feed, I find that kind eat less hay and no more corn than the country horses, and in every respect please better the carters, which is a most essential matter when so much out of the master's sight. I found great difficulty in training all those bred horses to work, it may be from their being eight years old or upwards, or accustomed to other work, or naturally bad tempers, but I completely succeeded by giving them trifling draughts at commencement, and patience of the drivers. I am therefore not experienced, and would not hazard the opinion that such cattle are suitable for farm operations, but I see the farmers in Scotland have a dash of blood now in their horses, particularly those in the south, which they find absolutely necessary where far from stock markets. I see some come twice a week forty miles before eleven o'clock in the forenoon, but they are light loaded, say 22 cwt. gross, for a single horse cart. With regard to feed, I allow fourteen pounds bran and six pounds beans daily, or in lieu, sixteen pounds oats with what clover hay the horses will eat; the men, however, always give their horses more corn, and in particular this winter, but the roads were so bad and frequently extra loaded, such as 33 cwt. gross for a distance of thirty-six miles, only stopping by the way to feed. I did not check them until it went to that excess, that I found it injuring the horses by preventing their eating hay sufficient, and deranging their bowels; since, the horses have recruited every day. I have my cart axles all turned true, like those of carriages, that there may be as little friction as possible.

I am Sir,

A CONSTANT READER.

Mid Lothian, April 17, 1838.

WHERE CAN ANIMALS OF THE BEST BREED OF CATTLE BE OBTAINED ?

TO THE EDITOR OF THE FARMERS' MAGAZINE.

SIR,—Having been a subscriber to your valuable Magazine for some time past, and reading your reports of the valuable animals at the different shows, may I request as a favour short answers in your next number? Where those or similar animals can be purchased? Whether the sale at Holkham is annual, and at what time of the year it takes place? or in short what (if any) sales of cattle (of the highest breed) take place, and in what Magazine or Newspaper they are advertised in? My reason for troubling you is that my small stock, and in fact all the stock in my neighbourhood are a disgrace to be seen (except pigs which I after much trouble and expence have now got good, and of course am improving the breed in the whole district); should you not be able to give me this information, you perhaps will have the goodness to insert the questions, and I doubt not some of your able correspondents will answer them. What does Mr. Brodie (on Fattening Cattle in your October number) mean by "ruta baga?" Hoping you will excuse my thus troubling you, I remain your obedient Servant,
AN AMATEUR KEEPER OF STOCK.

April 16, 1838.

THE THERMOMETER.

TO THE EDITOR OF THE TIMES.

SIR,—The last few days have been as cold as part of the month of February, and so unusual at this period of the year, that I send you a continuation of my register since the last communication, which marked the highest point of the previous day at 67, since which it has been as low as 31, making a difference of 36 degrees.

I am, Sir, your subscriber, H. P.

Paragon, New Kent-road, April 20.

	Highest point in the Shade during the Day.	Lowest point at Night.
April 12	58 degrees of Fahrenheit	37
" 13	51	41
" 14	50	43
" 15	57	37
" 16	46	31
" 17	46	33
" 18	44	34
" 19	43	36

POST BETWEEN LEEDS AND LONDON.—It is probable that in a few weeks, perhaps in a few days, the letters from London to Leeds will be brought by railway to Manchester, and thence by the Manchester and York mail to Leeds, so as to reach this town two hours earlier than at present. The London and Birmingham railway is now open for the whole distance except 37 miles; and the mail bags will shortly be, if they are not at present, forwarded by that conveyance—a locomotive engine being sent off at eight o'clock in the evening from London for that purpose. The letters will reach Manchester at ten o'clock in the forenoon, and in a few weeks or months, when the railway is completed, they will arrive at eight o'clock, or even earlier. The Leeds bag may then be forwarded by the York mail, which now leaves Manchester at nine

in the morning, and reaches Leeds at a quarter past two. We hope the post-office surveyor will make arrangements as speedily as possible for giving to Leeds this great advantage. To have two hours more for answering London letters and orders would be exceedingly valuable to this great manufacturing town. Bradford, Halifax, and Huddersfield will be still greater gainers than Leeds, when the letters come by way of Manchester.—*Leeds Mercury*.

THE PREVENTION OF TICKS AND THE FLY IN SHEEP.

East Church, Isle of Sheppy, Kent.
Feb. 25th.

Dear Sir,—In speaking of your "Sheep Dipping Composition," I can say, I have found it of most essential service in *killing and preventing Lice and Ticks in Sheep, and preventing the Fly*. I have dipped 2,000 in a year, and have never had *one* with the fly since, excepting in the tail from looseness of body; the wool is in appearance *in much better condition* after being dipped, and those that were dipped in August had not from that time till they were shorn, *one single tick or louse*; those that had not been dipped *were full of ticks*. Mr. Banks and Mr. Leese were present when my sheep were shorn, and I have heard them both speak of the utility of dipping sheep in this composition. Mr. B.'s shepherd, who is the entire manager of his flock, speaks in very high terms of it. I cannot possibly see either of the persons for their signatures to this letter, but I can testify to their speaking in the highest terms. I have no doubt but that others will use it this year, and I am certain every one would, if they could but see the difference between those that have been dipped and those that have not. You are quite welcome to make what use of my name you please in this matter, and I can say the same with Mr. Banks. I am, dear Sir, Yours respectfully,

JOHN MATSON.

Mr. Thos. Bigg, Chemist, 15, Crawford-street, Portman-square, London.

Copy of a letter from Sir Francis A. Mackenzie, Baronet, to Mr. Thomas Bigg, Chemist, 15, Crawford-street, Portman-square, London, in reference to his "Sheep Dipping Composition."

Conan House, Dingwall, North Britain.
Feb. 22nd.

Sir,—It is but justice to you to say that having tried it upon 370 wethers, 450 lambs, and 50 ewes, it has answered to perfection. The ticks have been *wholly killed*, scab has been prevented, and where incipient, been completely cured. Next year I shall bathe 3000 sheep with it, and send to you for a fresh supply.

Your obedient servant,
F. A. MACKENZIE.

THE PATENT SMOKE CONSUMER.—This invention is one of the most simple contrivances that can be conceived, and is likely to be equally effective in the very useful purpose for which it was so much wanted, and it is likely, when practice shall have brought it under perfect control for domestic purposes, to become very generally adopted. The machine, as exhibited at the Belvidere-road, near Waterloo-bridge, is a steam-boiler of a particular construction, suitable for a locomotive engine, about seven feet in length, and less than three in breadth. The door for applying the fuel is about a foot in diameter, and placed five feet from the floor. Into this, the foreman throws a quantity of coal upon a grating of close bars, which are horizontal for about eighteen inches; they then descend in a curve to the extent of forty-five degrees from the horizontal line, and the bottom of the boiler descends parallel to the grating at a foot or fifteen inches above them. It is in

this space that all the heat is concentrated, and the burning of the smoke takes place. When the coals are thrown in at the mouth of the furnace, the smoke generated is as intense as it is possible for smoke to be; the current of air draws it down the sloping passage, which is a mass of flame; the smoke in passing into this flame unites with it, and is so completely consumed, that not the smallest portion of it ever reaches even the bottom opening of the chimney shaft, and consequently not the slightest appearance of smoke or vapour is seen to emerge from the top of the chimney shaft, whether it be high or low. It has been tested in the severest manner, and has, we find, sustained its character. The saving that it may produce to railroad companies is calculated at about 50 per cent. in the fuel, in this way. At present, the railroad companies are bound in heavy penalties, under their act, to use coke only, because coal causes such great inconveniences, and is so detrimental to many sorts of property. Well, the coal costs 26s. a ton, coke 8s. 6d. per ton, and a ton of coal will generate 16 per cent. more steam than a ton of coke, therefore by this process, as there cannot be any smoke, the coal will be used in preference. Again, with respect to steam navigation, this process must prove a most desirable improvement, by preventing those noisome clouds of floating carbon, which is inseparable from the present imperfect mode of generating steam; consequently, travelling by steam-vessels will no longer be objected to on that account, when this patent shall be carried fully into operation.—*Mining Journal*.

THE SUBSOIL PLOUGH IN SHROPSHIRE.—This important implement is making its way, and "paying its way" among intelligent and spirited agriculturists, who occupy farms under liberal and just landlords. Small farmers do not possess sufficient power of horses to work the Subsoil Plough; and even large occupiers require—justly require—assistance from their landlords in making an improvement so vast and permanent upon an estate as this implement will effect. His Grace the DUKE of SUTHERLAND has well and wisely weighed the obstructions to an extensive use of the Subsoil Plough, and has placed his own generosity in the opposite scale, so as to make those obstructions light and trivial; for his Grace is not only allowing to his tenantry in Shropshire and Staffordshire the necessary draining tiles preparatory to the use of the subsoil plough, but has established powerful yokes of oxen to work it. These oxen, with servants and a plough, are lent to the Sutherland tenantry, in order that this valuable implement may be effectively used by them. A noble example, worthy of his Grace to a spirited tenantry!—*Shrewsbury Chronicle*.

The internal transport of merchandize in France, during the year 1836, according to official returns amounted to only 34,000,000 tons, of which the total value may be calculated at 204,000,000*fr.*, divided as follows:—

	Kilogrammes.	Francs.
Silks and ribands	1,659,500	value about 94,000,000
Cottons, muslins	7,746,000	— 34,000,000
Woollen goods, cloths, shawls, &c.	636,500	— 19,000,000
Linen cloths	660,000	— 11,500,000
Tulles and gauzes	22,000	— 5,000,000
Skins and felts	80,000	— 3,500,000
Cochineal, indigo	200,000	— 4,500,000
Oils	750,000	— 2,500,000
Tobacco	200,000	— 1,500,000
Clocks and watches ..	135,000	— 3,500,000
Coffee, sugar, cocoa ..	8,700,000	— 9,500,000
Sundries	13,310,000	— 15,500,000
	34,090,000	— 204,000,000

Of which 1,200 tons of valuable merchandize are rated at 18,000,000*fr.*, which is 150,000*fr.* per ton; and 22,000 tons of general merchandize are rated at 25,000,000*fr.*, which is from 1,100 to 1,200*fr.* per ton. The *Constitutionnel* remarks that this being nearly the total of the actual transport, is far too small to justify the enormous sacrifices for the construction of railroads proposed by the ministry.—*Calignani's Messenger*.

AGRICULTURAL REPORTS.

[OUR USUAL GENERAL AGRICULTURAL REPORT NOT HAVING ARRIVED IN TIME, WE ARE COMPELLED TO GO TO PRESS WITHOUT IT.]

BEDFORDSHIRE.

We have now reached the fifth day in Easter week, and the snow has been increasing upon us every day, with a frost at night, and this morning the weather has become quite alarming. The ground is completely covered with snow, and icicles are hanging from the roofs of our houses as in the depth of winter. The turnips are also about all gone; some of our farmers have finished (or rather the frost had finished for them,) a fortnight back, and how the sheep are to be kept it is difficult to divine, at any rate it must be at a most serious cost. Wool having of late years borne a fair price, and our best farmers having found out that nothing improves land more than well-fed sheep, they have been induced generally to keep as large a number as possible of these useful animals; this however is now the third spring in succession which has proved so cold and backward that the cost for artificial food has gone far to absorb the whole profit of winter grazing, especially this year, when those of our graziers who depend upon the London markets have often realized, after expenses have been paid, not more than 4d. per lb for their mutton. The prospect for wheat is also still very gloomy, except in a few solitary instances; the general plant has made little progress since our last, and is still meagre, and the chances at present are greatly against our getting anything like an average crop. It always, however, affords us great pleasure to turn to the more cheering points of our agricultural picture, and it must be admitted that amid the general gloom, we have rarely had a more favourable season throughout to put in the spring cropping, and should the weather soon take a favourable turn, there is every probability of the beans, peas, oats, and barley, doing remarkably well. From first to last, the spring sowing never passed off under more favourable circumstances; the rains, though not heavy, have been quite sufficient to set all the grain vegetating, and the season for the most part has also suited the preparation for mangel wurzel, potatoes, &c., and though from want of knowing how to use the mangel wurzel, it had rather fallen into disrepute in this county, there has been quite a re-action within the last two or three years, farmers finding that for this season of the year nothing can equal it, and there will doubtless be more sown than usual. The price of wheat remains at from 7s. to 8s. per imperial bushel, and from the scarcity of cattle food, beans and oats are dearer, while the barley season ends badly. It has in fact been a falling article nearly through the whole malting season, and from the prevalence of teetotalism, some people think the price will never rally again; and since this subject is now affecting the interests of agriculture, we shall not be out of order in discussing its merits, the more so as your Essex reporter has already referred to it, and we must confess in rather more general terms of approbation than we could have expected. We quite agree with your Essex reporter, however, in his anxiety to see demoralization, and that especially occasioned by intemperance, greatly abated in the land. And we fully participate in his sentiments of

horror of our gin palaces, and the outrageous immoralities occasioned by the beer-shops of the kingdom; but we were sorry to hear that these teetotal societies had almost made him a convert to the continuance of the malt tax. Our own conviction is that your reporter has on this subject fallen into error. He has laid down his premises with great ability, but we consider his conclusions quite at variance with them. The total repeal of the malt tax, without throwing any part of the impost upon beer consumed at the public-house, might in all probability conduce to drunkenness, but few sensible men have ever wished to free beer, so consumed, from all excise restrictions. But the error of the Duke of Wellington in selecting beer, rather than malt, to free from duty, was a most disastrous one, that accompanied by the opening of the trade, (though well intended,) we have no hesitation in saying was the most ruinous to the morals of the lower classes, of any measure which for many years have passed the British legislature, and that legislature having seen its error, ought forthwith to correct it. But why the beer consumed in a private family, or that drunk by a hard working labourer at his work, is to be taxed in the shape of malt, because men, forsooth, go to a gin palace or a beer shop and get drunk, we are quite unable to divine. And who, we ask, at a season like the present, can see the farmer hawking his coarser barley at the most ruinous prices, and at the same market he has to buy the most expensive food for his cattle, when, but for this malt tax, he has by him that which might be converted into the most nutritive food that he could possibly possess? Who, we ask, can contemplate this state of things without being overwhelmed with a sense of the injustice of these excise restrictions? But still it seems your Essex reporter doubts how far it would be wise to repeal this abominable impost. Why, men do not get drunk at home, or at their labour, and through the principal part of the year, under these circumstances they have not half the beer they might have and ought to have. We, however, as heartily wish the total abstinence society success, as your Essex reporter does, in reforming the drunkard, and, as far as they can, wipe away the national stain of drunkenness, from the land. But we demur *in toto* to their new code of morals, where they seek to impose total abstinence upon that portion of the community who use these things without abusing them. We have heard their arguments, too, for this line of procedure, and from some of their orators, we feel compelled to say we have heard a great deal of nonsense. We demur to the principles of teetotalism when applied to that class of the community; first, because it proceeds upon the fallacious principle of arguing against the use of anything merely from its abuse. We object to it secondly, because it is a species of pharisaism, — "laying heavy burdens upon other men's shoulders," which the purest code of morals does nowhere enjoin. And we object to the principle of total abstinence when applied to that class of the community, thirdly, because it makes grievous inroads upon the sociability and comforts of mankind, and everywhere inculcates a spirit of censoriousness among friends. In other words, we are much inclined to think with the celebrated Dr. Franklin upon this subject, "That our Creator seems to have drawn the line, by giving to those creatures which

are designed merely to drink water a peculiar conformation, enabling them to sip or lap it from the surface of the earth, while those who are capable of putting their hands to their mouths, are doubtless designed for something better." When men, however, begin to allow their appetites to dethrone their reason, then let them by all means, with the rest of their fraternity, begin to lap water, and nothing else but water!—April 19.

SOMERSETSHIRE.

The past month is one of no little consequence in agricultural affairs, and on the whole the weather has been more propitious than last year, although vegetation is, if anything, more backward. We have had but little rain, but up to this time enough for the purpose of getting seed in well, freshening the wheat plant, pastures, &c. In the beginning of the month the appearance of wheat on ground indicated serious deficiency, and some large growers thought they must plough up to some extent; one, whose farm lay exposed, thought that he had fifty acres not worth standing, and in several instances it has been ploughed up. There has certainly been recently a great improvement, but as yet it has not lost its weakly appearance, and is very thin, and there are a considerable number of acres that must come under the plough for some other crop, there are some pieces looking well, but this forms only exceptions to the general appearance of deficiency of plant. Beans are come up well, but are beginning to want more moisture; the vetches are improved, but will afford little assistance as food for some time and a good deal are not worth standing. The clover plant looks well, as do our pastures generally, promising by their present appearance fine herbage. The barley and oats are gone and going in excellent condition, the frost having saved a good deal of labour as well as improved the working of the land. In Dorsetshire the large flockmasters are feeling the wants of their turnip food for these, the stock of hay is being largely drawn on, and with this substitute the flock, particularly the lambs are suffering, and will shew by their want of growth the shortness of the present season. It has on the whole been a successful season for lambing, and a less loss among the ewes has not been known for years; the price of poor sheep under all these circumstances are high and the sale good; mutton is scarce, and worth 7d. to 7½d. per lb. with the offal; the sale of beef has not been so good, the very best scarcely fetching 10s. per score, while the price of poor stock, particularly that which is in a little condition, keeps up, and are eagerly caught up by the grazier; cows and calves are also dear, and easily disposed of at prices from 10l. to 15l. Poor pigs are not quite so good a sale, but for fat ones there is a steady sale at 8s. to 8s. 9d. per score. In the prospects of last month our market for wheat advanced to 8s., and although at present there is not so good a sale, best cannot be purchased under, and I must quote our current prices at 7s. to 8s. Flour, 44s. to 45s., with a very good and increasing demand, our markets have been well supplied, but in consequence of the comparatively high prices at Warminster, our wheat and flour has gone in a direction that have generally been largely supplied from that market. Our farm-yards show but a poor stock of wheat, and I am confirmed in the opinion that there is much less in stock anywhere than last year at this time; with no other kind of grain are our markets very abundantly supplied. The season for malting is nearly over, and rather a large quantity of Barley has been sown; the demand for oats is

good, 2s. 6d. to 3s. for 37 to 41lb. per bushel; there has been considerable advance in red clover seed, and the markets are generally cleared of this article at from 60s. to 70s.; white clover lays on hand and will not sell readily above 56s. and 60s. Beans are rather better sale, 4s. 3d. to 4s. 6d. prime, 4s. middling. Our wool market is very dull, and it is almost impossible to quote prices, no business having been done for some time, but a considerable reduction must be submitted to, and even it is doubtful if there would be buyers. The weather at present is much colder than it was a week since, with rather severe white frosts for the season; the wind seems rather fixed at the north-east. At Wells market the 7th, there was a considerable quantity of cheese exposed for sale, which did not go off quickly at late prices, 54s. to 60s. best Somerset, and from 48s. to 50s. second. Bacon maintains its price, 6½d. to 7d. by the side. Butter, 11d. to 1s. per lb. Potatoes, 5s. to 7s. per sack, 240lbs. There was a good demand for cows and calves. Hay has rather gone down in price, not being worth more than 4l. 10s. per ton the best.—April 13.

NORFOLK.

The winter of 1838 has left behind it a lasting record of its severity, by the sweeping destruction which it has occasioned amongst certain descriptions of evergreen trees and shrubs, but more especially that of the laurustinus; from the plant of thirty years standing down to the cutting of one or two years growth, none seem to have withstood the rigour of the season, and thus, instead of the pleasing relief which it usually affords to the shrubby borders by its beautiful foliage of unchangeable green, it may now be mistaken for the sear and brown leaves of the beech, with this distinction however, that the dead foliage of the latter only awaits to be displaced by the opening buds of spring, while the former must make new wood before it can assume its wonted appearance. Nevertheless, severe as the winter was, the spring months have been nearly as unfavourable to vegetable productions; the wheats are unusually backward, and partially deficient in plant, but happily not to that extent which has been surmised, and even represented through the medium of the press. Here and there a field may be met with which has been ploughed up and resown with some other grain, but as this is chiefly confined to the stubble wheats, which land properly came in course for oats or summer tilths, the defalcation may not be regarded as of much importance. The sets of artificial grasses are perfect, and promise an abundant hay crop; but these also partake of the backwardness of the season, a remark which is applicable to winter tares and all other descriptions of spring feed, notwithstanding which, there does not appear to be any actual want of keeping, although it must be admitted that the residue of the turnip crop, is more sparingly dealt out to the lean cattle now, than it was some two or three weeks ago. From this cause the price of that description of stock has lately been declining, and as the wool market is likely to be heavy, a similar depression is perceptible in the value of sheep. The reappearance of wintery weather during nearly three-fourths of the month of April, has retarded the sowing of spring corn, perhaps even now, not much more than one moiety of the barley crop is put in the ground, nevertheless, what has been effected is done well, for as the action of the frost conduces to pulverize the soil, so is the husbandman compensated for any loss which may arise out of the severity of the winter

season, by the tendency which it has to fertilize the land, and abridge the quantum of labour which would otherwise be necessary to procure the perfectly fine seed-bed, which is almost every where to be met with this year. The farmers are not without some apprehension relative to the measure now in contemplation for procuring a bill to allow bonded corn to be ground in this country, and manufactured into flour, for exportation. They are justly apprehensive that not only the measure itself would be attended with consequences inimical to their interest, but that it might be a prelude to the repeal of the corn-laws altogether. Now as there exists at this moment a stimulant to exertion and improvement amongst the cultivators of the soil, arising out of a confidence that matters are reduced to a permanent and settled principle, it is greatly to be regretted that the legislature should for an instant countenance the visionary schemes of theorists and speculators.—April 23.

NORTH DEVON.

We have delayed sending a report, to ascertain, as correctly as possible, the state of the growing crop of wheat, which, in every situation, was so extremely backward at the beginning of this month, that very little of the plant could be seen; it has since looked healthy on dry and light soils, covers the ground well, and has grown fast, though within a few days it has again been checked, and in some situations looks yellow, by the effect of extremely cold and strong north and north-east winds which have prevailed since the 13th inst., attended with frequent and heavy falls of snow and hail. On coarse soils, of which there is a considerable portion in this district, the wheat is still unusually bare for the season, though lately much improved, and it is thought to be moating and covering the ground sufficiently well to produce a good crop; there are some wet lands where the failure of the plants is almost entire, but it is not of that extent which might be expected to affect the general crop in any serious degree. The frequent mild showers that fell about a fortnight since, assisted the young wheats much, and also the early sown oats and barley, which in many parts is up, and looks healthy and regular. Ploughing and other necessary work in the fields went on briskly from the second week in March, until toward the end of that month, when the easterly wind, and sharp frost, rendered the heavy lands so hard, as to impede the work in a considerable degree, but on the 6th inst. the favourable showers enabled the farmers on such soils to proceed with their work, and the tillage in most places is now fast drawing to a close; those who have tried the Chevalier Barley in the last two or three seasons, at present reject it, and say that kind does not answer so well as the old sorts; the principal objection arises from the weakness of the straw. The grasses have a good root, clover in particular, and although very backward, are expected to produce good hay crops; the whole of the early sorts of turnips were found to rot, and be of little use at the breaking up of the frost, which has been attended with disadvantage, yet as the hay crop was good last year, both in quality and quantity, we do not hear of any serious complaints for want of fodder, on the contrary, the cattle never were in better condition at this season of the year; in consequence of which, the sales in the neighbouring great markets, have been to a considerable extent, at prices exceeding the farmer's expectations. Although the potatoes lodged in houses received much injury by the frost, there has been no

complaint of those that were properly secured in caves, therefore a scarcity of this article is not expected, or that the price will exceed a moderate rate. Vetches in favourable situations look well, but the greater part are very bare, yet after witnessing their extraordinary recovery in many fields last year, we fully expect to be enabled to give a better account of them in our next. The lambing season has been mostly late, but favourable, as few losses either of ewes or lambs have been sustained; and although green food is not plenty, the fields have a more promising look than they had at this period last year, neither are the sheep in that low condition to expect such a loss as was then experienced. The tillage of wheat has decreased so much the last two years, as to affect our markets in a considerable degree, the price of this article is therefore higher than in most other places, as the supply is barely sufficient for home consumption. The barley and oats has in general been of bad quality and condition, since last harvest, consequently very little of either has found its way to those markets where the extra produce is usually sent; yet there is still that inattention with the principal part of the farmers to their own interest, that they will not go to the necessary expense of procuring a change of good seed, although they feel the ill effects of bad management, by the little inclination there is of purchasing their corn, in the markets to which it is usually exported. Fat bullocks are plentiful, and average about 8s. 6d. per score; cows and calves are also plenty, and meet a ready sale, from 8*l.* to 14*l.* each; and the markets have for several weeks been fully supplied with fat pigs at 7*s.* to 7*s.* 6d. per score.—April 20.

CUMBERLAND.

The weather during March was very variable, but on the whole rather favourable for getting on with farm work, which had fallen considerably in arrear in consequence of the long continued frost. It again froze very hard on the last of March, and the first of April, which was succeeded on the second by the heaviest fall of snow that has been in Cumberland during the season. The first fortnight of the present month has been showery and wet, but rather favourable to vegetation, and the fields assumed a green hue, which was quite a contrast to the appearance they exhibited in the beginning of March. But since the 14th inst. the weather has been excessively cold, and frequently frosty at night, the wind has been boisterous in the extreme; on the 15th it blew something like a hurricane. These cold frosty winds have severely checked vegetation; and, should the weather continue some time longer as at present, it will tell pretty hard upon the fodder, and it is not over plentiful now that the turnips have nearly all been destroyed. But this cold dry weather suits nevertheless for cleaning and preparing the land for potatoes, turnips, &c., which kind of work was getting late on account of its being so wet at the commencement of the month, and dry weather alone being suited to that operation. The great bulk of the oats is put in, but there are still some fields which have been hitherto too wet to sow. Barley, upon the light turnip soils has been put in some time ago; but on other soils, and after wheat, it is generally sown in the month of May. Wheat is looking pretty well considering the winter, and has not suffered any thing like so much as some people anticipated. It is a very hardy plant, and seldom suffers much simply from frost, however severe. The frost does not appear to have had much effect upon the wire worm,

as that destructive enemy to the wheat is at full work in some fields, and the effects of its labour are pretty visible. But, though much thinned, there does not appear to be any so seriously affected as to justify its being ploughed down. Whether the grub, which often proves so destructive to oats, has escaped in the same way remains to be seen, as it cannot be known till after the blade makes its appearance above ground. The grain markets have exhibited a good deal of animation for a few weeks back; and wheat has been on the advance, with a good demand at from 24s. to 26s. and 27s. a bag of three imperials. Oats too have been better to sell, and at rather improved prices. And barley will probably improve as seed time advances. Potatoes are plentiful, and sell at from two-pence to three-pence per stone. Fat cattle are getting scarce, the demand is good at improving prices. The same may be said of sheep. Lean cattle for grazing, are selling well, and are leaving a fair profit for wintering; indeed, much better than was looked forward to at Martinmas. The fall of lambs appears to be pretty good, and they and the ewes are doing as well as could be expected after so severe a winter; but they suffered as little in Cumberland perhaps, as in any part of the United Kingdom; as, during the whole winter, the ground was never covered with snow to the depth of more than an inch. Pork at the latter end of the curing season, was rather flat, at from 5s. 4d. to 5s. 8d. per stone of 14lb. Young pigs, from eight to ten weeks old, have been selling at 16s. to 24s. each. Work is plentiful, and labourers are fully employed.—April 19.

KENT.

Since we last addressed you we have had weather every way suitable for us to get our land ready for the forthcoming spring crops, which has been done with one half the labour required in some years, owing to the frost having gone well into the ground; the early sown barley and oats have come up very regular, and if we could but get rid of the frosty mornings, we should soon see a very great change for the better in the vegetable world generally, for it is this that retards the growth of everything. We are afraid if rain does not soon come, the late-sown crops will come up very indifferent, for the land is getting very dry, and there will not be sufficient moisture in the ground to make the seed vegetate. The wheats, in general, are very backward, but they have certainly improved very much within the last few weeks. In some fields the plant is very thin on the ground, but this is by no means general, and it stands in need of warm weather, with falling showers, when no doubt all would be right. Very little land is now left unsown except where the turnips are still on it; those who have finished are now getting ready for potatoes, or using the land left for the forthcoming crop of turnips, &c. The clover plant has not suffered by the winter so much as at one time was expected, but in exposed situations it is much injured. The late dry weather has much improved the samples of wheat, and some which were stacked in very indifferent order are now under the flail, and their condition is much better than could have been expected. The corn markets with us of late have not been brisk, the supply having been very liberal, which makes the millers backward in buying. The stock markets have been but scantily supplied with good beasts, although as much as usual in number, but of indifferent condition. We have not much wool in the growers' hands, but better prices of late have been given, so that many persons have sold, being tired of keeping it.—April 12.

OXFORDSHIRE.

During the March month the weather was various, but seasonable. We had some very sharp frosty nights, which, with the sunny days that followed, appeared to accelerate the death of the already more than half dead shrubs and vegetables. It is quite pitiable to witness the perishing state of plants, which, as the sun lays hold of the bark, appears to die by inches; numbers that were considered to have "weathered the storm" when the frost broke up, now prove by their death-like appearance that they had experienced a fatal blow, which nature was unable to withstand. As for the brocoli, their blanched rows long since bespoke the vital principle departed. We never remember anything like the havoc the severe weather occasioned; and it is wonderful that the wheat crop, has preserved so well as it is, although upon thin cold bottomed land it is injured, yet on good and well farmed soils there is not much to complain of. The same observation will apply to vetches; the early sown on good land are looking well, but there is a very great difference between those and the late ones, and it is a hazardous practice to sow vetches so late as many farmers are in the habit of doing. The winter beans have had a terrible shake, and though not killed, they do not make that progress they once used to do. The early frame peas did not appear materially hurt when the frost left, but they have gone off much of late, and those remaining have a ragged unpromising appearance. The spring sowing has occupied much less time than usual, for the land is in such a pulverised state, and the weather highly favourable, which has enabled the farmers to fetch up the work that the long continuance of frost had thrown much behind. The seed being deposited so well, we may reasonably expect it will prove a barley year, except we should have a cold wet May to check the plant. Turnips are fast disappearing, and the grass but just beginning to spring, so that most people are obliged to lay their sheep over most of the grass land and seeds; the young layers are promising, but where sheep or cattle were foddered on the two year seed, the grass plant in a great degree is perished. Hay has kept nearly stationary. Wheat about a month past had a start, but has been rather flatter since; the best samples are worth about the same. Barley has been a drug in the markets for some time; the malsters are giving over for the season. The teetotallers, amounting to near upon 700,000, in our opinion, operates very injuriously upon the barley trade, and people are beginning to sow spring wheat instead. Apples (notwithstanding the number frozen) are almost unsaleable at any price. Labour, 8s. to 9s. per week.—April 13.

GLAMORGANSHIRE.

The weather has been favourable for farming operations; the fallows for mangel and turnips are in a forward state, and will be in good tilth. Barley sowing is about half finished in this county; we perceive by the Suffolk Report, dated the 30th ult., that barley sowing was then completed. In this county all farming operations are deferred too long, but we must observe, that in our wet climate the best land only could with safety be sown in March. In wet seasons, when an excess of rain falls at the end of April, we have known the early barleys on our retentive soils considerably injured, and far inferior to what may have been subsequently sown the first week in May on poorer land. The very cold temperature to which the ground was reduced by the severe

frost in January has locked up vegetation to a later period than usual, and although it is now fine, it has not yet made much progress. The wheat on light clover lands was considerably injured by the frost, and from its present appearance we cannot expect half a crop on such land; many pieces will be ploughed up. It is so backward, that even at this late period it cannot be hoed, the drills being scarcely visible. Keep is short, the common turnips having been all destroyed in the winter, and also a great portion of the Swedes. About the 1st inst. the nights were sharp, the thermometer registering only 28 degrees. Fat stock is scarce, mutton is worth 7½d. and beef 6d. sinking the offal. Good sound wheat is difficult to be procured, the price is about 8s. and barley 4s. We are rejoiced to see that the feeling is gaining ground of uniting the English agriculturists by a Central Society in London; the object is so laudable and important, that for our own part we should not cavil at the immediate views of such a body; all we desire is the union of the landed interest, which appears to us might be effected on the most extensive principle, by the foundation of a Central Society in London for the encouragement of agriculture, nearly similar to the Highland Society. A channel of communication would thus be afforded to the different local societies, through which much valuable information might be disseminated. The establishing such a society for political purposes would be unwise, and so soon produce its own dismemberment; but let the friends of agriculture once unite, and the visionary schemes of their political enemies would soon be paralyzed. Whether good or evil has arisen from the formation of the Central Agricultural Society about Christmas 1835, we shall not inquire. The object of that body was of the most legitimate and praiseworthy nature, namely, an application to the legislature for an inquiry into the distress which then overwhelmed the whole agricultural interest, and the demand of such a body *could not be resisted*.—April 13.

DURHAM.

After about nine weeks' storm unparalleled for its severity in the memory of the oldest man living, we have at last been blest with very favourable weather for agricultural operations, work of all kinds has been thrown very much in arrear; the plough has been in full activity since the disappearance of the storm, and has not stood to catch a mouse, strong stiff soils having been so recently ploughed work very unkindly for want of frost to pulverize them; on soils of this description the prospect of the ensuing crop is the reverse of good; there is a very large breadth of Oats and Barley to sow, which is certainly unusually late. Wheat upon well cultivated soils is looking well, we had a very heavy and deep cover of snow before the frost set in, which was extremely favourable for wheats, clovers, and turnips. The Swedish turnip sustained no damage whatever, where they were not bitten by hares or rabbits, or billed in by rooks or wild pigeons; we should recommend our brother farmers to furrow their turnips up, to cover the bulb completely, they get to a larger size, protected from frost, and are more nutritious when taken up. Owing to the long and severe storm sheep stock are very poor in condition, indeed it was quite impossible to keep them up unless they were plentifully supplied with corn, consequently the ewes have little milk for their lambs; upon the whole the season has been favourable and we have not heard of extensive losses. Clovers are extremely backward, and turnips have scarcely begun to shoot the least top, and the season is altogether very backward. The corn markets have rather improved; there has been a great demand for Seed Oats, which has produced

an advance in that article. We have a considerable animation in our Cattle Markets, particularly lean stock, which have been bought up at high and remunerating prices for the South Country Markets. Good draught Horses are extremely scarce and dear, owing to farming work standing so far in arrear. Fat Cattle from 6s. to 7s. per stone; and Sheep 7d. to 7½d. per lb. Pigs are still very high. Wool has rather receded in price, and few buyers, which is invariably the case when things are looking downwards. At our hinds' hiring last Saturday higher wages were asked and obtained, and we are apprehensive should the spirit of making railways continue, it will be quite impossible to procure farming labourers, for when they once become navigators it quite unfits them for any other employment. —April 14.

TO MAKE CHEAP BREAD.—Remove from the flour only the coarsest flake bran; boil 5lbs. of this bran in rather more than four gallons of water, so that when quite smooth you will have 3½ gallons of bran water; with this knead 56lbs. of flour and salt and yeast as for other bread. The 56lbs. of flour used in this way will produce as much bread as 67lbs. 4oz. of flour used with plain water, and when ten days old, if put into the oven for twenty minutes, will appear quite new again.

SAGACITY OF A DOG.—On Wednesday night, about nine o'clock, as Mr. Henry Campbell was returning from Woolwich to Greenwich, his progress was impeded by a sheep-dog, which endeavoured by every means to attract his notice; and, on his arriving at a by-lane which leads down to the river, his attention having been drawn to the extreme anxiety evinced by the animal to entice him, he determined, at all hazards, to follow his canine conductor. He had not proceeded above eighty yards along the lane when the faithful animal stopped at a gate, inside of which he discovered a man in a state of insensibility. He immediately returned; and finding a van which plies for hire between the two places, with the assistance of the driver and one of the passengers, conveyed him to the vehicle, from whence he took him home, and did everything to restore him. Having sufficiently recovered himself, he was recognised as Mr. James Hickman, a respectable grazier residing at Plumstead, who had been to London to receive some money. Not being able to obtain a conveyance direct home, he proceeded as far as Greenwich by a steam packet, with the intention of walking the remainder of the way. On his passage down he entered into conversation with (to all appearance) a respectable man and woman, who said they were going to visit a relation at Woolwich. On their landing they invited him to partake of some brandy and water, in which some deleterious drug must have been mixed. About dusk they proceeded towards Woolwich, and had got as far as the Ship and Billet public-house, when the stranger, recollecting that he had a letter to deliver in Greenwich, returned, saying he should soon overtake them. They had not proceeded far when his female companion enticed him up the lane, and from that time his recollection failed him. On searching his pockets he discovered she had taken his watch and a purse containing eighteen shillings, having overlooked an inside waistcoat pocket containing notes and gold to the amount of 48l.

LAMBS.—The farmers on all sides of us describe the present as one of the best of seasons for lambing. Three lambs to a ewe is quite a common occurrence. Mr. William Scholey of East Ashley has a flock of twenty-five ewes of "half-Scotch" breed; five of them have dropped three lambs each; fourteen of them have dropped two each; and the remainder have one each.—*West Riding Herald*.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

HOWDEN SPRING FAIR.—This fair commenced on Monday, the 16th inst. and the attendance of dealers was numerous. The demand for good horses was far more extensive than the supply. There was a tolerable show of midding and inferior horses; but for this description the trade was not brisk. On Tuesday, the 17th, there was a good supply of beasts; the attendance of buyers was very numerous, and stock that was good and fat met with a ready sale at 5s. 6d. to 6s. 6d. per stone. There was a short supply of sheep; mutton 5d. to 6d. per lb. Fresh draple cows were bought up at from 8l. to 10l. each; sales for all other descriptions were effected at good prices. Of in-calfers, or cows and calves, the number was small, and any thing that possessed breeding was soon bought up, at from 12l. to 18l., according to age and condition. The Annual Agricultural Cattle Show took place, in a close contiguous to the town, at twelve o'clock at noon. The judges on the occasion were Mr. Baxter, of Burton Pidsea, in Holderness, Mr. Fawcett, of Hunslet, and Mr. Lake, of Featherstone, in the West-Riding, who adjudged the following premiums:—To Mr. Lee, of Gardham, for the best stallion for getting hunters, (Brutandorf) 5l.; Mr. Metcalf, of North Cave, best coaching stallion, 5l.; Mr. C. Horsman, (Champion) the second best ditto 2l.; Mr. Edmund Thompson, of Armin, best coaching brood mare, 2l., for the best hunting brood mare no competition; Thomas Clerk, Esq., of Kneadlington, best coaching gelding, three years old, 2 sovs.; the best coaching gelding, two years old, no competition; Mr. Northgraves, of Sutton, in Holderness, best carting stallion, (True Briton), 2 sovs.; Mr. Edward Thompson, of Armin, best yearling colt, by Paulinus, (given by Mr. Burton, Fulford), 4 sovs.; Mr. Joseph Barker, of Spaldington, second best ditto, 1 sov.; S. Clark, Esq., of Kneadlington, best yearling colt, by Cavendish, (given by Mr. Howden, Driffeld), 4 sovs.; John Kemp, of Howden, second best ditto, 1 sov.; Mr. Henry Edwards, of Market Weighton, best bull, 5 sovs.; Col. Thompson, of Barlow, near Selby, second best ditto, 2 sovs.; Mr. H. Edwards, best breeding cow, 2 sovs.; Mr. H. Edwards, best two years old heifer, 2 sovs.; Mr. H. Edwards, best yearling heifer, 2 sovs.; Mr. Wells, Booth Ferry, best fat cow, 2 sovs.; a sweepstakes of 10s. for the best colt, was won by Mr. Joseph Barker, of Spaldington; Mr. John Precious, of Hive, for the best boar, 1 sov.; Mr. Hutchcroft, of Asselby, best sow, 1 sov.; Joseph Metcalf, of Swinefleet, for having brought up by his own labour, the most numerous family, without receiving parochial relief, 2 sovs.; William Grainger, the second deserving labourer, 1 sov.; Richard Atkinson, of Baxter Hall, being the oldest unmarried male servant who had lived the greatest number of years in one situation, 1 sov. The show of horses was numerous, and the emulation for the premiums displayed most of the finest horses in the East-Riding. At three o'clock, the supporters of this Institution and their friends sat down to an excellent dinner, at the Half-Moon Inn, in Howden; Thomas Clark, Esq., in the chair. After the usual toasts of loyalty, &c., the chairman, upon adjudging the premiums to the agricultural labourers, said, "I have great satisfaction in awarding these premiums for conduct so gratifying and praiseworthy. The committee inform me that the certificates presented, were never surpassed by those presented to them on this occasion; and I hope with them, it will be in the power of the Howden Union to extend rewards of this nature to others who may be as deserving of them as yourselves." The evening was spent with the greatest conviviality, and the company separated highly gratified with the proceedings of the day.

ROMSEY.—The Spring Cattle Show came off with much spirit; the stock was particularly good, and a great portion of it exchanged owners. The attendance of men of business was more numerous than on former

occasions, and we may indeed pronounce it as the best Cattle Market we have yet had in Romsey. The prizes were awarded as follows:—For the best fat ox, 5l. to Mr. Fowlie; 2d best do., 3l. James Young; 3d best do. 1l. ditto; best fat heifer, 3l. ditto; 2d best ditto, 2l. Mr. Drummonds; ten best wethers, 4l. Mr. Tifield; 2d best ditto, 2l. ditto; ten best lambs, 4l. Mr. Wallis, 2d best ditto, 2l. Mr. Lowman; 3d best ditto, 1l. Wallis; best fat calf, 2l. Mr. Ayles; 2d best ditto, 1l. Mr. Paice. —The Judges were Messrs. Spencer, of Southampton, Gale, of Mitcheldever, and Oates, of Winchester. —From 40 to 50 gentlemen dined at the Ordinary at the White Horse—W. P. Stead, Esq., Honorary Secretary of the Market, in the Chair.

STROOD, (KENT), SHEEP AND CATTLE FAIR.—The third annual fair was held on the usual day, Monday, the 16th of April, when 2,200 sheep were penned, four-fifths of which were Kent tegs, and the remaining one-fifth Downs and Kents of various ages. There was also a good supply of bullocks and horses. Although the weather was cold, and the grass in the neighbourhood very backward, two-thirds of the sheep were sold. Kent tegs for stock fetched from 24s. to 32s. Some very superior in condition realized 35s., 36s., and 38s. This fair from its situation promises to become important, at any rate very useful to the neighbouring graziers. There is also a Lamb Fair at the same place on the 30th of August in each year.

The **HEREFORD EASTER FAIR** was well supplied with stock, much of which was bought up in the early part of the day. Good hack horses and brood mares were much sought after, whilst inferior ones were neglected. Fat sheep, which averaged from 6½d. to 7d. per lb., and fat pigs from 5s. 6d. to 5s. 9d. per stone, also met with a ready sale. Among the stock shown, we noticed some very fine large oxen, of the pure Herefordshire breed, of beautiful symmetry and proportion, which could not fail to attract universal attention.

PERSHORE FAIR, has far exceeded the expectations of the most sanguine of its supporters; hitherto having been a mere apology for a fair. It proved what may be effected by the great body of agriculturists, butchers and dealers, when they put their shoulders to the work. A more splendid choice collection of fat and store stock has not been presented to the eye of a butcher or a grazier for many years past. Pershore offers every facility to the graziers and butchers for holding a fair, being situated in the centre of one of the most fertile vales in the kingdom—a short distance from several large towns, and soon to have a direct and speedy communication with some of the largest manufacturing districts, by means of the Birmingham and Gloucester Railway. There were from 400 to 500 beasts, which produced 5½d. to 6d. per lb. Stores were in great demand. There were present from 1,100 to 1,200 sheep and lambs, nearly the whole of which were sold. Mutton sold from 5½d. to 6d., shorn, from 6½d. to 7d. in the wool. Stores were in less demand, owing to the scarcity of keep at the present time. The show of horses was good, but few in number; which was also the case with pigs.

KIRKOSWALD STALLION SHOW.—On Easter Monday twelve very superior animals were exhibited, which are to serve in the neighbourhood this season. It would be invidious to particularize, as the animals were all excellent. However, we beg to say that Governor, a three-year-old bay horse, the property of Mr. William Sowerby, of Newton, had many admirers, and he was no little praised by his groom, Mr. R. Elliot; Commander, a grey cart stallion, deserves to be noticed, so does Barefoot, a bay horse, the property of Mr. Robson, Skeugh; Blaize, a light grey, the property of Mr. Threlkeld, of Kirby Slack; Reaper, dapple bay, belonging to Mr. Sheffield; and Premium, a beautiful

grey horse, whose owner is Mr. Unthank of Nether Scales.—*Carlisle Patriot*.

MODBURY GREAT MARKET was well attended by butchers and dealers; there was a very fine show of cattle; fat bullocks sold readily at an advance, say 50s. to 52s. 6d. per cwt.; stores likewise met a ready sale at better prices; cows and calves scarce and very dear; sheep sold readily at the advanced price from 6d. to 6½d. per lb. The market was soon cleared. The wool market still remains in a dull state, nothing doing, prices about the same. Wheat, white, from 8s. to 8s. 6d. per bushel, red 7s. 9d.; barley 3s. to 3s. 6d.; red clover from 8d. to 9½d. per lb.; white. 9d.

GAINSBRO' MART.—This mart was well attended; there were the usual attendants on these occasions, particularly of that class who find their harvest in crowds. The cheese market was well supplied, and the principal part sold at pretty good prices—from 48s. to 63s. per cwt. The fair, on Wednesday, was also fully equal to any former ones, stock selling very readily.

ST. IVES FAIR.—This fair produced a good show of fat cattle. The Ox to which the Garland was awarded, was bred and fed by Mr. Retallick, who had the fattest cow at this fair the preceding year. Mr. Retallick also gained the agricultural prize at Callington, the preceding year. The ox this year was four years old, and was purchased by Mr. Roger Henwood, near Bodmin, where the admirers of cattle may see it.

IRVINESTOWN MONTHLY FAIR was held on Monday. The show of beef cattle and springers was of the best description we have seen in that town at this season for many years. The former were not in as much demand as had been anticipated—those disposed of brought the present fair of prices very freely, the latter were greatly sought after and obtained a considerable advance. Pigs were very numerous and in great demand. We have not heard of a fair in this county the present year which gave such general satisfaction to all classes of traders.—*Fermanagh Reporter*.

ENNISKILLEN FAIR, on Tuesday, the 10th inst., was well supplied with horses of a good and middling description; great numbers exchanged owners at rates considerably below the expected prices of the sellers. Beef cattle were of the first quality and in great numbers—they met with free sales, and fully maintained the prices throughout the day, which we understand was remunerating to the holders. The show of springers was a source of general complaint, being of a middling and poor quality; the few prime ones, with which the fair was supplied, sold high and without trouble. Sheep were scarce and little sought after. Pigs were in hundreds, and sold in great numbers at somewhat advanced prices. The other business of the fair was tolerably good, and pretty fairly met the expectations of all concerned.—*Ibid*.

CUPAR LINSEED MARKET.—There was a very great supply of fat cattle, which were nearly all sold, at from 5s. 6d. to 5s. 9d. per imperial stone, being nearly the same prices which good fat brought at the corresponding market of last year. The supply of grazing stock was short. The Earl of Rothes, however, bought an excellent lot of three-year-olds for about 13l. a-head. There was a demand for good milch cows, but the supply was rather poor. In the horse market there was very little business transacted.

NEWCASTLE CATTLE MARKET on Tuesday morning presented a more animated and imposing appearance than it has ever before done. The stock was of a better quality and in greater numbers than on any former market day. We have been told by parties most likely to be correctly informed upon the subject, that the amount of stock sold was greater than at Morpeth market on the following day. We last week observed upon the necessity of extending the convenience of the market by making a greater number of pens, and we have this week to state that those already erected were not sufficient to contain the sheep offered for sale. Our readers will be glad to learn that the popularity of this market is increasing weekly—that the stock is generally sold out, and at prices which must induce the farmers

and graziers to patronize it. The Newcastle and Carlisle railway, now fast approaching its completion, will assist this market in no mean degree; the facility of bringing the fat stock without fatigue, and at a cheaper rate than by the old system of driving, will have a proper effect upon the minds of those whose interests are so materially affected, and they will readily avail themselves of a good market, when it can be done with so little trouble. About eighty head of cattle came by railway this week, and we shall not be surprised to find the number increase, in a very short time, in a tenfold degree. On Tuesday morning a petition was in course of signature to the Corporation, praying them to erect another row of pens, which was signed by upwards of 2,000 farmers and butchers before the market closed. We are glad to observe that the wishes of the petitioners have been promptly carried into effect by erecting another row of pens, and we have no doubt the Corporation will as readily and effectually respond when they are called upon for more room, which will, in all probability, shortly be the case.—*Tyne Mercury*.

POULTON FAIR.—But very few cattle were exhibited. What little business was transacted was at a very dear rate, viz.:—calving heifers from 13l. to 14l., and drapes from 8l. to 9l. each.

CHUDLEIGH FAIR was largely supplied with fat bullocks, which obtained a good sale at from 8s. to 9s. per score; the supply of store bullocks was short, but enough for the demand; they fetched from 5s. 6d. to 6s. 6d. We never remember witnessing so small a number of sheep as was penned on this occasion—in fact there were but two pens of sheep in the fair, and those fetched about 6d. per lb.

WITHERIDGE FAIR was tolerably well supplied with cattle of every description, but the sheep were limited. There were but few dealers from the east, but notwithstanding everything that was good sold readily. There was a large pair of old oxen exhibited, belonging to Mr. Thomas, for which 50l. was asked, they excited a good deal of attention, but remained unsold.

BODMIN GARLAND FAIR was but thinly supplied. Working oxen and steers met a ready sale, but the demand for fat cattle was not so brisk—those sold fetched 47s. per cwt. The best Garland ox was adjudged to Mr. A. Grose, of St. Kew; the second best do. do. to Mrs. Sweet, of Withel; the best Garland cow to Mr. Henry Lowry, of St. Mabyn; the second best do. do. to Sir R. H. Vivian, Bart., of Glyn.

AYRSHIRE AGRICULTURAL ASSOCIATION.—This Society, which we have frequently alluded to as instituted and conducted with talent and enterprise, and as a good example for imitation by our Southern proprietors and agriculturists,—continues to thrive, to extend, and to become more useful every day; but, alas! it has made no impression upon our own district. At a late meeting of the General Agricultural Association for Ayrshire, Mr. Ballantine of Castlehill, after pointing out at some length the disadvantages arising to wool-growers from the want of a regular stated wool-market, concluded by moving that a committee be appointed, with power to confer with the magistracy of Ayr on the subject, in the view of forthwith establishing such a market in that county; which motion having been seconded by Mr. Hamilton, Rozelle, was unanimously approved of and a committee appointed. The committee who had been appointed to draw up and circulate a statement of the extent of destruction done to crops by wood-pigeons and rooks, reported progress, and the thanks of the meeting were unanimously voted to Captain Montgomerie of Giffen, for the great trouble he had taken in this matter. Captain Montgomerie, in reply, informed the meeting that Lord Eglinton had, in conformity with the wishes of the association, given directions for the destruction of rooks and wood-pigeons on his estates, and he hoped soon to hear of similar instructions having been given by other proprietors of rookeries.—*Dumfries Times*.

Pigs, to the number of 25,042, have been imported into Bristol from Ireland, during January, February, and March, in the present year.—*Bristol Gazette*.

REVIEW OF THE CORN TRADE

DURING THE MONTH OF APRIL.

The past month has exhibited all the characteristics of winter; cold northern and north-eastern winds, accompanied with snow, hail, and rain; the completion of field labour has in consequence been impeded, and the secret operation of nature in giving vitality to the seed committed to the ground, has been neutralized from the want of the co-operation of a genial temperature. Fortunately the high state of preparation into which the land was generally brought by the favourable weather of March, has materially shortened the period usually occupied with sowing, and therefore the bulk of oats and barley were already planted, and where the tender blade has appeared above the surface, it looked green, healthy, and regular, and every promise seems put forth of the succeeding being a "barley year." The wheat plant, however, on the lighter, wet, and cold lands, as well as in exposed situations, previously enfeebled by the severe ordeal to which it had been subjected by the rigorous test of the past winter, just recovering its strength, and exchanging its sickly hue for a more healthy aspect, has felt the injurious effects of the late frosty nights, checking its growth, and causing it to reassume its former unpromising appearance. But it is to be hoped, that with an immediate succession of seasonable weather no radical evil has yet occurred; though a thinness of plant is to be anticipated. We are sorry to find that the severity of the frost has not prevented the attacks of that destructive insect, the wire-worm, though we may expect that the fate of the grub has been decided, and that its depredations will not be committed on the spring corn. Potato and turnip sowing are likely to proceed under favourable circumstances.

The principal English markets have not sustained any improvement, but on the contrary, prices have generally receded 1s. to 2s. per quarter, except for the selected parcels, which only in a few instances have been bought on lower terms. Purchasers for the moment seem disinclined to follow up prices, thinking, perhaps, they have attained a range thus early in the season that requires fresh superinducing causes to excite further operations, and additional data to give some degree of foresight as to the probable turn of the trade; for the markets are only likely to be further stimulated by the state of the weather and aspect of the fields during the current and subsequent month, as the dearth of supply at present will not, in all probability, be felt to the extent to cause any material enhancement of the quotations. If we review the rates which have been realized at the principal markets of the United Kingdom, we shall be inclined to agree that reason exists for checking

any very great extent of business beyond the immediate wants of the millers, especially in London, considering the unsettled, and we may say, unsound state to which the system of underselling has reduced the flour trade. At Liverpool we find Irish wheat noted at 8s. 10d. per 70lbs., at Wakefield fine red, 59s. to 61s., white, 62s. to 65s.; at Birmingham, red, 8s. to 8s. 2d. per 62lbs.; at Newcastle, red, 62s. to 64s. and white, 64s. to 66s.; at Hull, 60s. to 62s., which is the range of prices along our eastern coast; at Uxbridge we have this week an average as high as 64s. 9d. and at Guildford 66s. 10d.. At Edinburgh, red wheat is obtaining 58s. to 60s., and white 65s. to 68s. At Glasgow, Irish red, 30s. to 32s., and English, 31s. 6d. to 35s. 6d. per 240lbs.; prices at other wheat markets ruling from 58s. to 64s. At Dublin, red wheat advanced as high as 36s. to 37s. 6d. per brl. and white, 37s. to 39s. At Limerick, 18d. to 21d. per stone. At Belfast, white was worth 13s. to 13s. 3d. per cwt., and red, 12s. 9d. to 13s.

In *Scotland* farmers had been enabled to make considerable advances in sowing in the beginning of the month, and their whole attention being directed to field labour, the markets have been more than usually bare of supply. Some few orders have been transmitted to this country for the purchase of wheats, indicative of the prevailing opinion of the short compass within which the finer qualities of wheat are reduced. Latterly, however, many parts of Scotland have again been clothed in wintry garb, the Highlands being covered with snow, and laying in fields some inches in thickness; field labour has therefore been impeded, and the prospect of a still more retarded season has given additional tenacity to farmers in retaining the limited stocks on hand, knowing that their granaries and barn-yards and the warehouses of merchants were seldom so bare at a similar period of the year. The consequence is, an advance has been demanded on the already enhanced terms, which consumers hesitating to comply with, has caused the extent of business at present transacting to be extremely circumscribed.

In *Ireland* interruption has been experienced as in other parts of the United Kingdom, but on the whole it has been a progressive month for all agricultural operations, and in many of the wheat-growing districts the plant is assuming a fresher and healthier aspect. The prices of wheat which had attained an extreme range have latterly shown symptoms of receding in value. Oats too, in instances, have slightly given way, but on the whole the trade has remained firm, and shippers showing little disposition to accept lower terms. Lime-

rick and Kilrush qualities may be noted at 11s. 6d. to 12s. per barrel; Dublin, 12s.; Derry, 12s. 6d. to 13s.; Newry, 12s. 6d. to 13s.; Galway, 11s. to 11s. 6d. per barrel. Owing to the backward state of the season, and the high prices at present prevailing for flaxseed, the consumptive demand for the article has not generally commenced.

In looking over the half-yearly accounts of the imports of British grain into the port of London since harvest, that is, from Michaelmas to Lady-day, compared with the similar periods of 1836, 1837, we find a diminution in the receipts of wheat of 24,000 qrs., and a decrease of 28,000 sacks of flour. It will be observed in the tabular accounts annexed, that the chief falling off in those counties on which the metropolitan demand mainly depends for support has been in Essex, Norfolk, and Cambridgeshire. Of oats the deliveries have been 95,000 qrs. less from England and Scotland, but from Ireland the receipts have amounted to 435,889 qrs., being 80,000 qrs. more than in 1836-37, and of which the port of Galway has shipped 49,500 qrs., and Limerick 159,600, forming nearly the large proportion of half the aggregate exports. The increase, however, imported from the sister kingdom is not sufficiently extensive to argue any prospective diminution in the future supplies, more especially as the arrivals at Liverpool and western ports of the kingdom have been nearly proportionately less, while the surplus from Ireland has met the deficiency from our own coast and Scotland by 15,000 qrs. It is known that the stocks of oats in this country are limited, nor can we look forward to any material assistance from Scotland; thus, therefore, the main portion of the future consumption is dependent on the resources of Ireland—a fact which is likely to tend to the further enhancement of the currencies of oats free on board, bringing the article at the same time fully on a par with the value of wheat.

Arrivals of Wheat, Barley, Malt, Oats, and Flour into London for the six months ending 31st March, 1838, compared with the similar period of 1837.

	Wheat qrs.	Barley qrs.	Malt. qrs.	Oats. qrs.	Flour. qrs.
1838.					
English.....	153956	241151	147606	62788	202157
Scotch.....	3109	16138	1149	46881	130
Irish.....	1389	7591	509	435889	604
Totals	158454	264880	149264	545558	202891
1837.					
English.....	180041	226673	159740	134614	228172
Scotch.....	263	13390	1898	70054	1972
Irish.....	5	6262	205	355454	700
Totals	180309	246325	161843	560122	230844

The following shows the separate arrivals from those ports from whence London draws the bulk of its supply for the same period as above:—

1838.		1837.	
ESSEX.	KENT.	ESSEX.	KENT.
Wheat. Flour.	Wheat. Flour.	Wheat. Flour.	Wheat. Flour.
qrs. sacks.	qrs. sacks.	qrs. sacks.	qrs. sacks.
58,633 76,811	32,027 16,641		

SUFFOLK.	NORFOLK.	CAMBRIDGESHIRE.
Wheat.	Wheat. Flour.	Wheat.
qrs.	qrs. sacks.	qrs.
24,198	13,470 59,760	16,289
	1837.	
ESSEX.	KENT.	
Wheat. Flour.	Wheat. Flour.	
qrs. sacks.	qrs. sacks.	
76,374 81,487	32,197 19,963	
SUFFOLK.	NORFOLK.	CAMBRIDGESHIRE.
Wheat.	Wheat. Flour.	Wheat.
qrs.	qrs. sacks.	qrs.
25,379	14,847 75981	23,558.

This month's supply of wheat has been very moderate, and the trade during the earlier part of March languid; the disorganized state of the flour trade proving a check to animation. Millers have experienced much difficulty in quitting their flour at the gradually increasing prices commensurate with the enhancement of the raw material, and *underselling* is now carried to such an extent, that to many the sale of bread is becoming a ruinous business; the ready money they receive over the counter keeping them afloat until the miller pressing for his money, disappearance of the baker, or failure ensues. The manufacturers, therefore, are, under present circumstances, unwilling to increase their connections, or to effect sales, unless for cash. While the more respectable of the "low priced bakers" in the more populous and poorer districts of the metropolis, demur paying the increasing demands of the millers, as the labouring classes, with whom their dealings are confined, are incompetent to meet any enhancement on the previous demands, the low range of their wages compelling them, in the event of an additional 0½d. or 1d. being laid on the quartern loaf, to diminish the quantity of bread required for the sustenance of their families, as their weekly receipts, unfortunately, do not keep pace with the advancing terms which holders of wheat, from adventitious causes, are enabled to realize; wheat, in consequence, receded 2s. to 3s. per qr., but has latterly regained 1s. per qr., and the trade has remained firm at the reduction of 1s. to 2s. per qr. on the currencies at the close of March, the selected parcels of red being readily taken by the millers, at the prevailing rates. The sale, too, of ship flour has improved at 1s. less money.

Much animation has prevailed in the bonded market, and exclusive of the transmission of considerable orders abroad, several sales have been made on delivery, chiefly of Danzig wheats. Besides many parcels have changed hands in loco at rates equal to 36s. to 38s., and 39s. for Baltic red; a very superior parcel of Mecklenburg having realised 40s. Danzig at 42s., 43s., and 44s. for high mixed, and fine, 45s.; soft Russian is held at from 28s. to 35s., and Kubanka, 30s. to 34s. Not only have the parcels of fine foreign wheat on hand become confined to a limited extent, but holders demanding disproportionate rates compared with the prices ruling in the place of their produce; little business is transpiring, except in

cases where the article is needed for immediate shipment.

The coldness of the weather having enabled maltsters to keep on working, fine Norfolk and Suffolk with Chevalier barleys were taken at full prices; grinding sorts being much reduced in stock have in instances brought rather more money. Stout distilling sorts have been also saleable, but the intermediate descriptions have moved slowly off hand; prices having undergone little or no variation.

The malt trade has remained in a heavy state, and inferior descriptions 1s. per qr. lower.

The oat trade during the earlier part of the month assumed much firmness, and prices advanced 1s. to 1s. 6d. per qr. upon our last quotations, but large supplies from Ireland determined dealers and consumers to press for a decline, and which they eventually succeeded in effecting to the extent of 6d. per qr., some country purchasers however latterly appearing, and factors persevering in holding, have prevented any further depression, and in a few instances the 6d. per qr. has been regained. But the market has not been brisk on these terms, though no doubt consumers must come in at the price, unless much larger receipts arrive from Ireland than are anticipated. Both English and Scotch oats have experienced a dragging trade, but are unaltered in value; except inferior English which are cheaper, Irish oats having completely commanded the preference of the market, weight, quality, and price, relatively considered. Little has been doing free on board with Ireland, the demands of shippers being too high, but at a reduction of 3d. to 6d. per brl., from the rates noted above purchasers are ready to come forward.

Beans have been in more moderate show, and obtained fully 2s. per qr. advance for fine dry qualities. Grey and maple peas are also 2s. per qr. dearer, but in white little alteration, though full prices have been realized. Blue peas have become scarce, and fully 2s. higher.

The alteration in the duties consist of a decline of 2s. per qr. on wheat; 1s. 6d. on barley, oats, and beans; and 3s. on rye.

Advices have been received from Canada to the 24th of March; at Montreal many inquiries existed for flour for the consumption as well as for shipment, and rather higher prices were being demanded, sales of fine old had been effected at 38s. 9d. to 40s. per barrel, and new 42s. 6d. to 45s. The stock in consumers' hands was very limited, and therefore the quotations likely to be realized before fresh supplies could reach the market. The navigation was expected soon to be opened, and conflicting opinions prevalent as to the tendency of the currencies may be therefore now fairly tested; but lower rates are to be anticipated, as large importations of foreign wheat are expected. The supplies of wheat brought to market by the habitants had been very limited, but they were increasing, as several holders were busily engaged in thrashing out, prices ranged from 6s. 8d. to 7s. 1d. per minot. On the shores of the Lake Ontario

5s. 6d. to 6s. 3d. per 60lbs. were being paid, but prospects it was thought did not justify these advanced rates. A considerable business was passing in oats for distillation, as well as grinding, the consumption of oatmeal being materially on the increase, and which with the abundant supply of potatoes would in all probability lessen the demand and depreciate the value of wheat and flour.

At Halifax, German wheats were obtaining 7s. 6d. to 8s. per bushel. Barley was noted at 3s. 6d. to 4s. United States superfine new flour 50s.; old, do. 40s. per brl. in bond; Hamburg Flour in bond 40s. to 42s. 6d.; Canadian superfine, 52s. 6d.

At Sydney, (New South Wales), the prices of wheat remained at 7s. to 8s. per bushel, and fine Van Diemen's Land qualities were worth 9s. It appears that an extensive and luxuriant tract of country had been discovered beyond New England, at the back of the Liverpool plains running towards Moreton Bay; the plains are represented as being intersected with water, and the whole district well adapted for sheep.

The accounts from France, especially the more northern departments, continue indicative of higher prices, the wheat plant, as the season advances, being found to have suffered more from the severity of the winter than was at first expected, especially the white wheat, so that many fields have been ploughed up and resown. We are however inclined to believe that the injury sustained is principally local, and though the growth of the plant generally has been much retarded, yet with a continuance of fine seasonable weather, the ultimate detriment to the crops will not prove material, though appearances for the moment may be sufficiently ominous to induce holders to demand advancing prices, especially as snow has lately fallen in several departments. At Paris though the sale of Flour was difficult to effect and millers consequently little disposed to accede to the advanced demands of holders, yet notwithstanding prices of wheat continued to improve, and the better qualities noted as high as 46s. 10d., and some factors demanding 47s. 8d., white wheat being held at 49s. per qr. From Bordeaux it is stated that the advices received from the upper districts of the Gironde represent the appearances of the crops as extremely promising, though no decided opinion can be offered till the close of the ensuing month, when the wheat will have bloomed. But if the present prospects are participated in by the lower parts of the Garonne it is expected that the ensuing season the surplus produce will in some measure supply the deficiency which is likely to occur in the northern departments from the severity of the winter.

The Russian Government has authorized the free import of rye and barley in the Uleaborg and Wasa districts of Finland until the end of July. Sales of linseed had been effected at St. Petersburg for June delivery at 30s. 2d., and of Morschansky for August delivery at 33s. 6d. with 8 and 5 roubles per tchetwert paid in advance.

Considerable excitement prevailed at all the principal Baltic grain markets, not only by the gradual improvement in the value of wheat in this country, and the transmission of extensive orders at the prevailing currencies, but the appearance of our countrymen at different ports, who giving vent to that sanguine temperament for speculation, for which the English are too notorious among the Germans, have been paying extreme prices in their eagerness to secure fine parcels, and have consequently, rendered the markets unsettled, and the demands in some instances extravagant. The unfavourable reports of injury sustained by the crops in different parts of Prussia and Poland, as well as the Duchies lower down the Baltic; failure, also, of the last crop of rye, and increased local consumption of wheat, are facts, all combining to stimulate the currencies. The inland markets appear to have much less stocks than usual at this season of the year, and the offers, consequently, for sale are on a very limited scale. Holders, also, in Volhynia are entertaining a favourable opinion of wheat, and prefer consigning, and taking the risk of the current rates, than selling on delivery.

At Danzig holders were in consequence very firm and had advanced their demands 2s. and in some instances 3s. per qr., white wheat being noted at 37s. to 40s., high mixed, 34s. to 37s., mixed, 30s. to 33s. Flour in request but no deliveries to be obtained before June; 1st quality noted at 20s. per brl. Biscuit meets sale at 12s. A., 11s. B. per cwt.

The notice of the introduction of Col. Seale's Bill into the House of Commons had had little or no effect on the trade, the ultimate passing of the measure, and its profitable working, being subjects too remote and problematical to influence any immediate mercantile operations.

In Mecklenburg where an active demand has been experienced for English account, prices of wheat have further advanced 3s. to 4s. per qr., the finer samples being noted at 32s. to 33s. 6d., but latterly the sales have been less free, the inquiry being confined to the most selected parcels. In Holstein sales for export have been effecting at from 30s. to 32s. per qr. Barley has met inquiry at 15s., and was improving in value. Rapeseed has experienced a ready sale at 24l. to 24l. 10s., owing to the unfavourable accounts from France, Belgium, and Holland, and the receipt of several orders.

Letters from Stockholm state that public sales of bread were appointed at moderate prices in the city and different parts of the country, and in addition to the *partial* reduction on the import duties of barley, oats, and potatoes, the same permission was to be extended to rye until the 15th of June, which had created some degree of dissatisfaction, as considering the dearth which exists, a total remission of the duty on rye was deemed merely an act of justice. The Government had, however, placed at the public disposal nearly 50,000 dollars Banco, some portion to be lent on security with and without interest, part

to support the poor labourers, a tenth for assisting the distressed but honest peasant on his personal security, also to aid the smaller farmers, and where necessity required it to give ryemeal instead of money. All accounts from the interior of the kingdom report the exhausted state of all the stocks of grain and potatoes, and owing to the retarded period before a remission of duty had been granted on rye, the supply of the home growth was nearly consumed, "affording," our correspondent adds, "a striking and practical example of the onerous and pernicious working of our system of imposing a high duty on the importation of foreign grain."

At Hamburg the supplies from the upper districts of the Elbe continued liberal, but as the bulk of the receipts were of middling and ordinary quality, the finer parcels have been held at improving prices, especially latterly, new samples, old having rather receded in value from the top quotations of marks of 36s; new marks 33s. to 34s. 6d., and other descriptions in proportion. Saale barley coming sparingly to hand and meeting inquiry for shipment, and the consumption had realized 21s. 3d. Rapeseed was dull, owing to the contradictory character of the accounts of the young plant, while some statements report the crop as promising, others that it is nearly destroyed, and the season must be more advanced before any dependence can be placed in the appearances of a vegetable produce, which, perhaps, of all others is the most deceptive to judge of at this period of the year; the last quotations were 25l. to 25l. 10s. per last.

In Holland the weather has been extremely unequal, and the frosts having been very severe at night, would, it was feared, prove injurious to the young Wheats. Along the Rhine and Moselle prices of wheat were advancing, and shipments being continually made from the Lower to the Upper Rhine, and therefore little chance existed of additional supplies being received at Rotterdam of Rhenish wheats. Indeed it was expected that orders would be executed on the Dutch market for German account. Oats were in very moderate supply and likely to improve in value; old Polands of 43lbs. 15s. 6d., new of 40lbs., 14s. 9d., feed of 35lbs., 14s. with a freight of 1s. 6d. and 10 per cent. Rapeseed, 32l. to 33l. per last.

Advices received from the United States to the 2nd of April state that at New York, the flour trade remained in a languid state, and sales chiefly in retail, Western Canal remaining at 8 dollars to 8 dollars 25 cents per barrel. New York City, 7 dollars 50 to 75 cents. The trade in Foreign wheat was confined to the finer qualities of red German, which realized from 1 dollar 50 to 55 cents. The sales of Foreign rye had been rather extensive for distillation, and the previous stocks reduced to 10,000 bushels. The navigation of the North River and the Connecticut had been re-opened on the 18th, being an earlier period than experienced since 1831, and the commissioners had given notice that the water would be let into the canals of New York, so as to render them navigable on the 12th of April.

CURRENCY PER IMPERIAL MEASURE.

	BRITISH.		APRIL 1.		MAY 1.	
	s.	s.	s.	s.	s.	s.
Wheat, red, Essex, Kent, Suffolk.....	52	62	52	60	50	60
White.....	52	68	52	65		
Norfolk, Lincolnshire and Yorkshire....	48	62	48	60		
White, do. do.	50	64	50	62		
Irish Red	44	52	44	48		
Ditto White	50	56	50	54		
Barley, Malting, new	30	31	30	31		
Chevalier, new.....	30	35	30	35		
Distilling	27	30	27	30		
Grinding.....	23	26	23	26		
Irish	22	25	22	25		
Malt, Brown.....	49	53	49	53		
Ditto, Chevalier, new and old	58	62	57	62		
Ditto, Norfolk and Suffolk Pale, do. .	54	57	54	57		
Ditto Ware	55	58	54	58		
Peas, Hog and Grey.....	29	31	30	33		
Maple	30	33	31	34		
White Boilers	34	38	34	38		
Beans, small.....	36	40	36	40		
Harrow	34	38	34	39		
Ticks	32	35	32	36		
Mazagan	34	37	34	37		
Oats, ENGLISH feed.....	21	23	21	23		
Short small.....	22	26	22	26		
Poland.....	23	27	23	27		
Scotch, Common.....	20	23	20	23		
Berwick, &c.	22	25	22	25		
Potatoes, &c.	24	28	24	28		
Irish. Feed	19	21	20	22		
Ditto Potatoes	22	24	23	25		
Ditto Black	19	21	21	22		

PRICES OF FLOUR,

Per Sack of 280 lbs.

	APRIL 1.		MAY 1.	
	s.	s.	s.	s.
Town-made	52	55	52	55
Norfolk, Suffolk, Kent, and Essex ..	45	48	44	45
Sussex and Hampshire.....	42	45	42	44
Superfine	44	—	45	—
Lincolnshire, Yorkshire, and Stockton.	42	44	41	43
Northumberland, Berwick, and Scotch.	41	43	40	42
Irish	41	44	40	43
Extra	46	—	45	—

IMPERIAL AVERAGES.

	Wheat.	Barley	Oats	Rye	Beans	Peas
Weekending						
9th March	55 4	28 6	20 6	29 3	32 5	33 4
16th ..	56 8	28 10	20 8	31 6	32 9	33 0
23d ..	56 10	29 6	21 2	30 7	33 1	32 9
30th ..	57 9	29 7	21 4	33 0	33 11	32 10
6th April	58 8	29 9	21 4	31 7	33 11	33 1
13th ..	58 10	30 1	21 10	31 8	34 2	31 11
Aggregate Average of the six weeks which regulates the duty.....	57 5	29 5	21 2	31 3	33 5	32 10
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	29 8	18 4	15 3	22 9	19 9	21 3
Do. on grain from British possessions out of Europe.....	5 0	2 6	2 6	3 0	3 0	3 0
Foreign Flour, 17s. 3d. per 196lbs. British Possessions, do. 3s. per 196lbs.						

COMPARATIVE PRICES OF GRAIN.

WEEKLY AVERAGES by the Imp. Quarter, from the Gazette, of Friday last, April 20, 1838.	AVERAGES from the corresponding Gazette in the last year, Friday April 21, 1837.
WHEAT.....	58 10
BARLEY.....	30 1
OATS.....	21 10
RYE.....	31 8
BEANS.....	34 2
PEAS.....	31 11
WHEAT.....	55 6
BARLEY.....	30 8
OATS.....	23 1
RYE.....	33 5
BEANS.....	36 11
PEAS.....	38 0

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th April, 1838; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity Exported.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	25 1	1040 3	5961 3
Ditto Foreign.....	5 5	40 5	521896 3
Barley.....	1597 3	4 1	32045 3
Oats.....	...	15 1	242113 1
Rye.....	22 1	4 2	7464 0
Beans.....	51 6	19 5	5320 5
Peas.....	265 0	921 6	20079 6
Indian Corn.....	...	...	2245 3
Flour from British Possessions.....	3728 1 15	6491 0 19	14057 1 10
Ditto Foreign.....	8812 3 10	50 1 8	114694 2 23

PRICE OF SEEDS.

MAY 23.

The continuance of arrivals of foreign Cloverseed as detailed below, added to the advanced state of the season, and the falling off in the consumptive demand has rendered the trade extremely heavy since this day se'nnight, and sales to-day proceeded slowly at about a reduction of 4s. per cwt. on red qualities, while white seed was slow sale at rather worse prices. The quantity of foreign which has paid duty during the week has been 1,791 cwt., and the imports comprising 815 bags and brls., 23 casks and 2 brls. from Hamburg; 113 bags and 30 brls. from Rotterdam; 91 bags and 6 casks from Altona; 20 bales from Havre, and 32 bags foreign from Hull. Trefoil dull, but unaltered in value. Linseed meets partial demand for feeding at former rates. In Rapeseed little transpiring, and prices nominal. Canary meets very slow sale, as well as Caraway and Coriander. Mustard supports prices, but Tares found few purchasers. In Linseed Cakes little doing. The receipts of foreign Oil Cakes have been 10,000 from Calais, and 116,480 from Amsterdam. On the 30th instant there are to be offered for public sale 2,000 qrs. of East India Sessamum seed, 264 qrs. of East India Rapeseed, 28 qrs. do. Linseed, and 50 qrs. do. Poppyseed.

Clover, English red.....	60	80	white	50	82	per cwt.
superfine.....	85	90				
Dutch	—	—	—	—	—	—
German.....	—	—	—	—	—	—
French	60	72	super..	80	85	
American	—	—	—	—	—	—
Trefoil	—	—	—	12	19	
Rapeseed, English	£30	£32	foreign	£24	£28	per last.
Linseed, English Sowing ..	—	—	—	44	48	per qr.
Baltic	—	—	crushing	36	42	
Medit. & Odessa.....	—	—	—	40	44	
Hempseed, small.....	32	34	large	38	40	
Canary, new.....	36	38	old	40	42	
Caraway.....	—	—	—	40	44	
Coriander.....	—	—	—	11	14	per cwt.
Mustard, brown	12	16	white	7s	8s 6d	per bush.
Turnip Seed, new Swedes 20	10	12	other sts.	28	36	
Rye Grass, English.....	30	56	Scotch	18	42	
Tares, Winter.....	4s 3d	spring	4s 3d	5s 0d		

PRICES OF HOPS.

BOROUGH, APRIL 23.

The demand for Hops has improved, and the prices are firm; the backward season has induced many to speculate on the present low rates.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent Pockets, from.....	4 4	to 4 15	superfine.. 5 12
Bags	4 0	4 10	5 5
Mid Kent Pockets.....	3 15	4 10	5 5
Bags	3 15	4 4	5 0
Weald of Kent Pockets	3 10	4 2	4 10
Sussex do.....	3 3	3 15	4 4
Yearlings.....	2 2	3 3	3 10
Old.....	1 10	1 15	2 10
Old olds.....	0 18	1 5	1 10

POTATO MARKET.

SOUTHWARK, WATERSIDE, April 23.—The continuance of cold weather during the past week has been greatly favourable to the consumption of potatoes, and the arrivals of fresh supplies having considerably diminished in proportion to the arrivals of several preceding weeks, has enabled salesmen to effect a clearance in the market, as well as to maintain their prices. The supplies reported for last week are as follow:—From Yorkshire, 773 tons, Scotland, 180, Jersey and Guernsey, 132, Devons, 35, Kent, Essex, and Suffolk, 181, Wisbeach, 138, making together a total of 1,439 tons. The above supply has proved sufficient to meet the demand, and as it is not probable that such large supplies as has been lately received can again arrive this season, there is every prospect of present prices being fully maintained, and for prime fresh samples, which will now be chiefly sought after, some advance may be anticipated.

Annexed is the Current prices Per ton.

York Reds.....	60s	70s	Jersey and Guernsey	55s	60s
Kids.....	—s	60s	Blues.....	45s	55s
American Natives.....	40s	55s	Wisbech.....	—s	55s
Shaws for seed.....	45s	50s	Kent, Essex, and	—s	60s
Scottish Reds.....	50s	60s	Suffolk Whites.....	50s	60s
Devons.....	55s	60s	Kent and Lynn Pink	—s	65s
			Kidneys.....	—s	65s

WOOL MARKETS.

BRITISH.

Per lb.	APRIL 1.		MAY 1.	
	s. d.	s. d.	s. d.	s. d.
Down Tegs.....	1 6	1 7	1 6	1 7
Half-bred do.....	1 6	1 7	1 6	1 7
Ewes and Wethers.....	1 3	1 4	1 3	1 4
Leicester Hogs.....	1 4	1 5	1 4	1 5
Do. Wethers.....	1 2	1 3	1 2	1 3
Blanket Wool.....	0 10	1 1	0 10	1 1
Flannel.....	1 0	1 4	1 0	1 4
Skin Combing.....	1 0	1 2	1 0	1 2

EXETER.—As respects yolk wool, things were at a stand, the holders of stock being generally indisposed to treat on present terms, which are, nominally, from 9d. to 10d. per lb. In washed Wools, things are in a similar state, the quotation being, Knott, 12½d.; Dorset Horn, 13½d.; and Marsh Wool, 14½d. per lb. In Sorts, the descriptions that have hitherto pretty firmly maintained their price, have experienced further decline, and our general quotation in this way is, Broad Head, 8d. to 9d.; Kent Head, 9d. to 10d.; Red Green and Pinions, 10d. to 10½d.; Fine Head, 11d. to 12d.; Fell Combing, 11d. to 12d.; Cornish Stripe, 13½d.; North Devon Stripe, 13½d.; and Tops, 16d. to 16½d. per lb.

WAKEFIELD, April 20.—The improved demand noticed in our last week's report continues, and we have had a fair extent of business done, but without producing any effect on prices, which are steady.

LIVERPOOL, SATURDAY, APRIL 21.

SCOTCH.—There has been rather more inquiry for laid Highland wool towards the end of the week, but the amount of business done has been trifling, one or two small lots of white Highland has been sold at our quotations. In cross and Cheviots we have also to report more inquiry, but the amount of business done is likewise trifling.

Per Stone of 24lbs.	s. d.	s. d.
Laid Highland Wool, from....	10	0 to 10 6
White do. do.....	12	0 —
Laid Crossed do.	13	0 14 0
Washed do. do.....	15	0 16 0
Laid Cheviot, do.	15	0 16 0
Washed do. do.....	20	0 23 0
White do. do scarce.....	26	0 28 0

A moderate inquiry has been experienced for the lower descriptions of Foreign Wool, which have realized our last quotations. The transactions in other sorts are limited; but the trade generally wears a somewhat improved aspect. Import for the week, 1,223; previously this year, 13,046; total, 14,269.

SCOTCH.

Per Stone of 24 lbs.	APRIL 1.		MAY 1.	
	s. d.	s. d.	s. d.	s. d.
Laid Highland Wool, from, 10	6	10 11 0	10	0 to 10 6
White Do. Do.....	13	0 13 6	12	0 —
Laid Crossed Do.....	14	0 15 0	13	0 14 0
Washed Do. Do.....	16	0 16 6	15	0 16 0
Laid Cheviots.....	16	0 17 0	15	0 16 0
Washed Do.....	23	0 25 0	20	0 23 0
White Do.....	28	0 32 0	26	0 28 0

FOREIGN.

MAY 23.

Although a considerable quantity of inferior foreign and Colonial wools have changed owners during the past week, no advance can be noted in the prices; which, however, are fully stationary. Of late the imports have been but moderate.

Electoral Saxony wool, from 4s. 0d. to 5s. 2d.; first Austrian, Bohemian, and other German wools, 3s. 2d. to 4s. 0d.; second do., 2s. 0d. to 3s.; inferior do. in locks and pieces, 1s. 6d. to 2s.; German lamb's do., 2s. to 3s.; Hungarian sheep's do., 2s. to 3s.; Leonessa sheep's do., 2s. to 3s. 2d.; Segovia do., 1s. 8d. to 3s.; Soria do., 2s. to 3s. 0d.; Caceres do., 2s. to 3s. 2d.; Spanish lamb's do., 1s. 6d. to 2s. 6d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal sheep's do., 2s. to 3s.; ditto lamb's ditto, 1s. 6d. to 2s. 6d.; Australian, fine crossed do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Diemen's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 4d. to 2s. 10d. per lb.

Wool on which the Home Consumption Duties have been paid at London, Bristol, and Hull, during the last week:—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Spanish, London..... lb.	693680	590640
Australian, London..... lb.	259225	121461
German and other Sorts, do. lb.	2835108	4107153
Liverpool..... lb.	2479622	—
Do., Hull..... lb.	2295025	1991326

THE WOOL TRADE.—LONDON, THURSDAY, April 19.—The wool trade is rather more brisk. The importations in the week ending to-day have been 1000 bales, of which 748 were from Germany, 190 from Spain, and the remainder from the Cape of Good Hope.

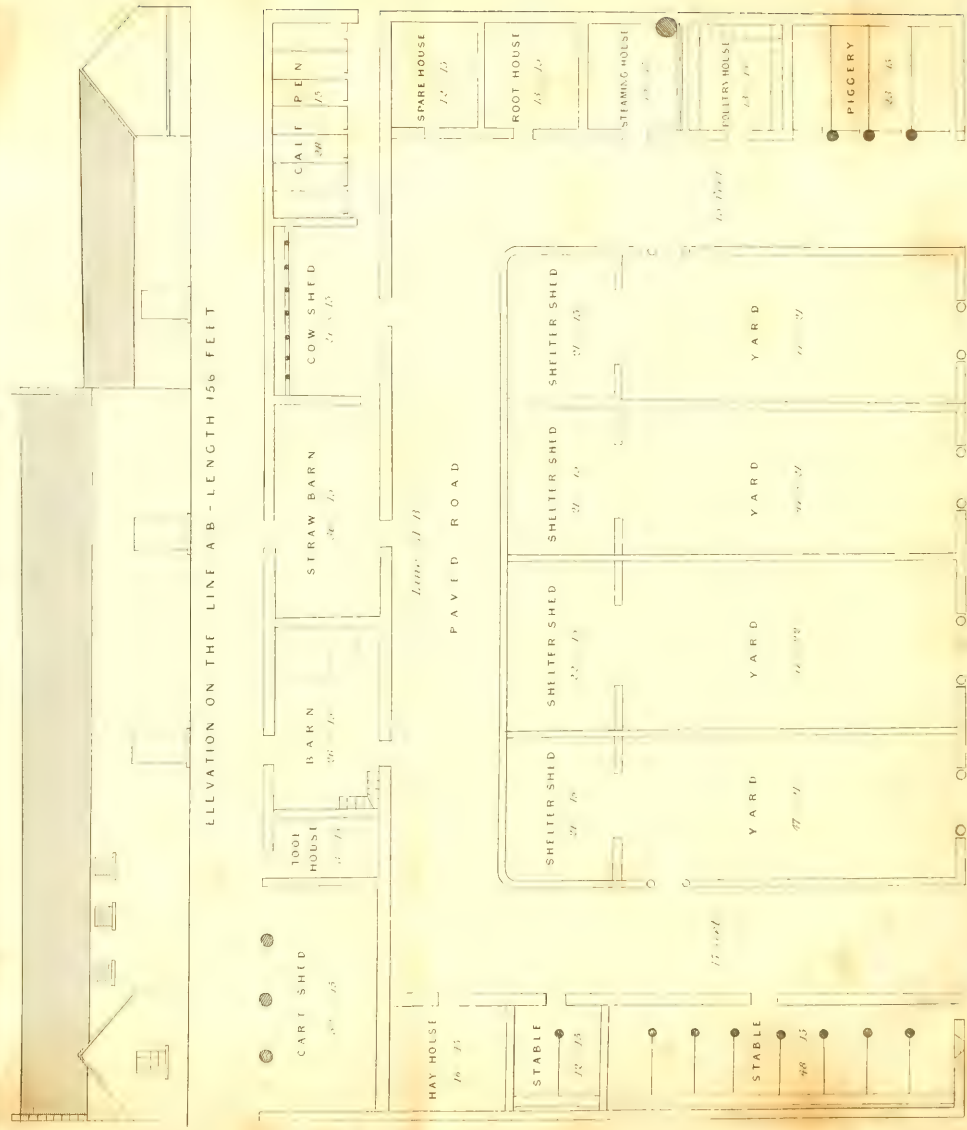
The accounts from THIELT of the 12th of April, state that the market had been very abundantly supplied with cloth, about 4000 pieces having been exposed for sale. There were sold altogether about 3650 pieces. Such was the stock of goods brought to market that sufficient room could scarcely be found for their safe deposit.

At RHEIMS, in the week ending on the 15th inst., some considerable sales of wool had been effected for this season of the year. The sales had amounted from 5000 to 6000 kilogrammes. Combing wools were not to be met with, the stock being exhausted. The demand, however, was by no means animated.

From NEW YORK, our advices of the 26th ult. quote no variation in the prices of foreign wool, though rather a better business had been transacted in the article. Spring goods of European manufacture were scarce and in demand for the Western merchants, but prices were low.

The accounts from TRIESTE to the 2nd instant, mention that wool continued in regular demand, and as the deposits were much reduced, prices had again advanced. The stocks at this date were—washed, 250 bales Odessa and Taganrog, 500 Bosnia and Servia, half fine; 353 do. do. coarse; 1000 Soria, half fine, at 50f.; 250 Wallachia at 31f. to 60f.; 250 Scutari Lambs. Unwashed, 100 bales Dolo, 50 Smyrna, and 800 bales Barbary.

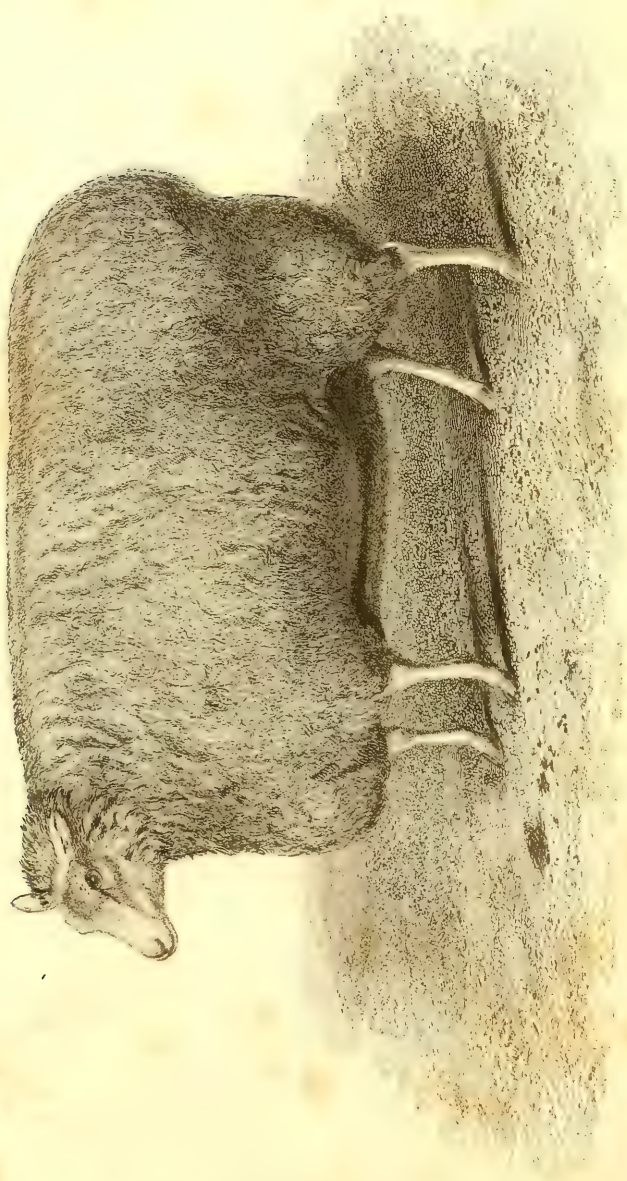
Employed 3 or 4 men, partly in milking, partly in milking, and partly in feeding stock; Estimate L. 400.



Scale 2" = 100 feet

J. Davidson, 1880





THE FARMER'S MAGAZINE.

JUNE, 1838.

No. 6.]

[Vol. VIII.

THE PLATE.

The subject of our first Plate is a Three Years Old Ewe of the improved Leicester breed. This very superior animal was bred by Edward Clarke, Esq., of Canwick, Lincolnshire, and exhibited as extra stock at the Smithfield Show in December last. The engraving is a very accurate likeness of the animal, and even in the mind of the most critical, can leave no doubt that Mr. Clarke justly merits that character as a first-rate breeder of Sheep, which he now enjoys. The practised eye will at once perceive those points, which, whilst they display *size* and *substance* at the same time, exhibit a frame which leaves no doubt of a healthy *constitution*. We can bear testimony to the quality of the wool, having examined it very minutely on the back of the Ewe when exhibited at the Smithfield Show.

ENGLISH AGRICULTURAL SOCIETY.

SUGGESTIONS FOR RAISING A FUND FOR THE DISTRIBUTION OF PRIZES.

The pressure of matter upon divers subjects interesting to the agriculturist is such as to render it impossible to lay before our readers all that we could wish, and we trust that such of our friends as are kind enough to forward reports of meetings and other matter to us, should they not find them inserted, will ascribe the omission to the cause we have stated, and not to any inattention or disrespect on our part. Amongst the reports so passed over is that of the meeting of the Kendal Agricultural Society, held a short time since. At this meeting the establishment of the English Agricultural Society was adverted to by Mr. Ellison, of Sizergh, who offered some valuable suggestions upon raising funds for offering prizes, by local societies, as well as for contributing to the English Agricultural Society. It appeared from the statement of this gentleman, that a county rate of one penny in the

pound over the county of Westmoreland amounted to 1,138*l.* 8*s.*; he estimated the part raised upon household property at 200*l.*, leaving the actual charge upon the land at 927*l.* The plan proposed by Mr. Ellison is the raising by *legislative enactment* a rate of one penny in the pound, taxing the landlord at a halfpenny and the tenant at a halfpenny, and thus raising in the county of Westmoreland a sum of 927*l.* after making allowance for houses. This rate upon a rental of 10*l.* per annum would be 5*d.* on the landlord and 5*d.* upon the tenant,—on 100*l.* it would amount to four shillings and twopence on each party, and on 500*l.* would amount to one pound and tenpence each. This sum devoted to a purpose so pregnant with interest to the parties themselves, and the benefit of which must revert to them in a tenfold degree, could not be considered burthensome. He next proposed to divide the county into seven districts, in each of which he would establish an agricultural society, and divide 800*l.* of the money raised, amongst these societies; of the remainder he would give 100*l.* to the English Agricultural Society, and the residue he would expend in cheap

agricultural works, and in sending a deputy to the English Agricultural Society, "with his eyes and ears open, to return and report to them what he had seen and heard, and learned, which might interest his brother farmers in Westmoreland." Zealous advocates as we are for the improvement of agriculture, we are certainly not prepared to approve a plan for enforcing it by *legislative enactment*. The advantages of contributing to such an object must be brought home to men's minds by the force of conviction and not by the force of law. Mr. Ellison himself expresses his doubts as to such a plan passing into a law, but says "he is confident it would have the support of the tenantry; *he dreaded only the landlords!*". Now for the honour of British landlords as a body, we trust that Mr. Ellison has not formed a true estimate of their disposition in this matter. We feel persuaded that the number of landlords who would refuse such a contribution would be very inconsiderable. We perfectly agree with Mr. Ellison that such a measure could not be carried into a law, but we differ with him on the grounds upon which it would be opposed. Notwithstanding, however, that this plan cannot be carried out, it furnishes some valuable suggestions. There can be no reason why the owners and occupiers of any district should not arrange amongst themselves to raise a fund for such a purpose in the manner proposed. If improvements are introduced into the district each individual will benefit in proportion to the extent of land which he possesses; it is, therefore, but fair that he should contribute in proportion. As regards the proposed contributions to the funds of the English Agricultural Society we do not anticipate any large amount of contributions from local societies, except as in the case of the Highland Society upon the occasion of the district meetings, when each district in which a meeting is held raises a sum of three hundred pounds or thereabouts to increase the amount of prizes offered. A wish is very generally expressed that the meetings of the English Agricultural Society should be held in a different part of the country in each successive year, or in other words that it should be migratory. We have not the least doubt but that if it shall be so decided, the competition amongst the country districts for the first meeting will be very great. It must be admitted that it is impossible to raise a uniform contribution throughout the country, but supposing that there could be found in each of the 10,000 large rural parishes a person sufficiently convinced of the benefit which a well conducted society, established upon the principle on which the English Agricultural Society is based would confer upon Agriculture, and would take the trouble to collect in half-crowns, shillings, and sixpences one pound only in each parish, a sum of 10,000*l.* might be placed at the disposal of this Society which with the amount received from subscriptions would at once afford the means of carrying out every object which the Society could contemplate. In another part of this paper will be found the resolutions of the Committee at two meetings held since its appointment by the General Meeting on the 9th inst., with a list of the members who have already joined the Society.

TO THE EDITOR OF THE MARK-LANE EXPRESS.

[There can be no doubt that an Editor possesses full right to comment upon matter which he inserts in any publication conducted by him; but it is no less certain that the insertion of a communication from a correspondent does not bind an Editor to the opinions or statements therein expressed. One great object sought by giving publicity to the sentiments of individuals in the character of Correspondents, is to provoke discussion and elicit the opinions of others upon the same subject. There can be no better proof of the benefit derived from pursuing this course than the instance now in question. Had we commented upon the points now adverted to by our Correspondent, Dr. Blundell, in the subjoined letter, the probability is that our readers would not have had the benefit of this communication from his pen.—ED. F. M.]

SIR,—I believe it is generally understood by the public, and by yourself acknowledged, that you are also one of the Editors of the Farmers' Magazine.

Although I have been a constant reader of both periodicals for some time past, I confess to have passed over, or rather carelessly disregarded to take any public notice of some errors, which have from time to time crept into the columns of both publications, without any notice of such, by yourself, in your editorial capacity. It is, I conceive the undoubted privilege of an Editor, on receiving any paper or other communication for insertion into the pages of any work he conducts, to make such comments upon it as shall give the public some estimate as to the value of the matter sought to be conveyed. It too often happens when an individual enters upon the discussion of a subject of which he has obtained only a partial knowledge, that between his little acquired matter-of-fact knowledge and his ignorance, he is apt to run into speculative conjectures, respecting the operations and changes of those compound materials of which the three great kingdoms of nature are severally made up and constituted.

Unless we interrogate nature by a careful examination of her laws, reason by analogy, and draw deductions only from the proofs of direct experimental results, it is evident we shall never arrive at any clear notion by what manner of means she effects those wonderful changes and transformations which we at every turn behold; as equally certain it is that *mere reasoning* on the works of nature alone, unassisted by plain matter-of-fact, will only plunge us into inextricable labyrinths of wild hypothesis and vague conjecture: nor shall we ever be able to arrive at any rational theory, or draw a single lucid deduction by which to direct our investigations in the pursuit of scientific truth. It is an old axiom that "a little knowledge is a dangerous thing;" and although I admit that every individual, on the onset of his career, in quest of knowledge must only possess *that little*, yet it is, nevertheless, the duty of every one, before venturing upon the task of authorship, thoroughly to understand the great fundamental principles of any science, before the attempts, at one fell-swoop, to overturn it.

I have a few remarks, therefore, to make upon the subject matter of a letter, addressed to the Editor of the Farmers' Magazine, by an individual signing himself J. D., (which appeared in the Mark Lane Express of the 16th April ult.) in which the author

calls in question the utility of the application of the science of chemistry to the uses and purposes of agriculture. The author of that letter takes upon himself, not however, without great presumption, to deny *in toto* "that the convertible farmer has ever derived any part of his system from chemistry;" and that the system of agriculture *has ever* derived such benefit from the application of the principles of science, he goes on to say "he knows to be wholly at variance with the fact." He continues "a soil may be occasionally analyzed; but an extensive practical benefit to a whole country, must have been the result of such analysis, before it can be allowed to constitute *any part* of the superiority of the system;" "that this is not the case," he observes, "experience (!) enables me most fully to assert." (!!)

Without going into the state of society during the darker ages of human existence, when chemistry, as a science, was not then known; when the philosopher engaged in the depths of alchemy, was content to deceive himself with the vain hope of discovering the philosopher's stone and an immortal elixir, I might easily expose the author of these remarks, and show how very contracted his views must be of the rise and progress of agriculture; for it surely cannot be advanced as an argument, because chemistry did not precede agriculture, that we are to say that any attempt to connect or apply the principles of such a science to the pursuits of agriculture is absurd? No Sir! as little ought we to expect that because scientific men, of the present day, furnish us with matter of fact information, upon any subject of physical science, and clear the path of those brambles and briars which would otherwise obstruct our career, and thus prevent our investigating the varied and diversified phenomena of nature; that they are necessarily called upon to furnish us with brains also, in order that we may comprehend the great leading truths which their own more competent knowledge of such science may allucideate and set forth.

If J. D. himself is ignorant of any benefits that have been derived from an acquaintance with, and application of, the laws of chemistry to the purposes and practice of agriculture, it behoves him, with mind unprejudiced, to investigate the science for his own better information. It is not for him, along with Mr. Hillyard, to express his doubts as to any extensive results being, *or having been*, derived from the study of chemistry as applied to agriculture, but to set himself about the investigation of the science, in order the better to understand whether the application of the principles of chemistry, geology, and botany will throw any light upon the practice of agriculture. Allow me to tell him that any particular branch of science is not necessarily either to be ridiculed or condemned, merely because he is ignorant of its grand fundamental truths.

In a kind of *saving* clause, however, J. D. admits that extensive benefit *may have* resulted from the application of scientific principles to agriculture, though "unknown to him;" and after calling Dr. Wilkinson a "fire-side reasoner on farming," and coupling Sir H. Davy in the same bracket, he goes on to twist the "may be's" and "might be's" of the capabilities of science to *such* useful ends as that of agriculture, according to his own conceits, without adducing any rational argument by which to defend his scepticism of science—if, indeed, argument can arise from out manifest ignorance.

J. D. complains that "such fire-side reasoners" have never made a single practical application of their science towards the improvement of agriculture, and asks the question, (supposing such benefits are capable of being derived from it) "Why che-

mists do not explain it, so that others may apply it, and so reduce the 'may be' to a certainty, and thus confer an everlasting benefit on mankind?" Now all this reads very boldly, and seemingly breathes the language of defiance, or at least challenges contradiction, for the author assures us, "that a single trial of Sir H. Davy's theory of dry, or even wetted straw for manure, or the same cut into chaff and laid in the drill, will so *satisfy* him of chemistry, that he will never repeat it." In answer to these questions, and in reply to this flippant assertion I would ask, whether J. D. has ever attentively read over what Sir H. Davy has written upon this point? and whether, in his *Elements of Agricultural Chemistry*, he states, *or elsewhere ever has stated*, that any material, any marked *instant* benefit is to be derived from the ploughing or drilling in of chopped straw? I answer, No! Sir H. Davy, after noticing the objections to the use of long straw, as being difficult to bury in, besides rendering the husbandry foul, merely observes, "that it is worth the experiment, whether straw chopped small and kept dry till it is ploughed in, for the use of a crop, would not be *more economically* applied than when in its fermented state?" Sir H. Davy observes that, "although it would decompose *much more slowly* and produce *less effect at first*, yet its influence, in the long run, would be more lasting." That is in the succession of a few years and tried upon lands deficient in vegetable matter. Thus, then, Sir H. Davy has not insisted upon the use or superior benefit of chopped straw over rotten manure for turnips and such like crops, but has merely thrown out a hint by way of recommendation for its *more general use*; leaving the farmer to exercise his own discretion when and upon what soils to give the experiment a fair trial; and certainly upon many stiff and highly adhesive soils, the application of *recent manure* has most indisputably proved the correctness of his views. Let J. D. make but a few inquiries in the immediate vicinage of Holkham, and he will there learn that the Earl of Leicester, by a series of accurate and persevering experiments, has seen good cause to apply manure to his estates as fresh and unfermented as he possibly can. In answer to J. D.'s question, "why chemists do not explain their scientific principles so that others may apply them?" I would, independently of recommending him to read Davy, with his eyes open, refer him to peruse the *Life of Lavoisier* by Lalande, and he will there find that this philosopher cultivated between 200 and 300 acres of land on chemical principles, for the express purpose of setting a good example to the farmers of the continent; and if we inquire into the success of this experimental trial, we find, that the mode of culture he practised, was attended by such extraordinary results, that, in the first year, he obtained at least one-third more of crop than was produced by the usual method; and that in nine years the whole annual produce of his estate was doubled!

J. D. should bear in mind, that the application of the principles of chemistry to agriculture, as now studied in connection with the details of geology and botany, is a subject of comparatively recent inquiry; and that before he denounces it, by styling it a "theory that is overstrained, and one which does not rest upon reason and sound judgment," he will do well to refer to a (then) very able treatise on the nature of soils and the cultivation of heaths, by Mons. De Buënie (published in 1780): also to an Essay by the Rev. T. Wright (1789), on the nature of the waters suited to the irrigation of lands, &c.; but in order that he may not run away with the idea that chemistry, as applied to agriculture, is altogether

a new fangled notion, he may consult a very valuable treatise by Dr. Home, published as early as 1758, on the fertilizing properties of different mineral and saline manures, and this too, at a time when chemistry had not, as yet, thrown much light towards improving the different processes of the dyer and the calico printer, or those of the arts and manufactures generally. If then it be admitted, as it most undoubtedly must, that chemistry has done so much for the arts and manufactures; if she has largely contributed to our luxuries and extended the sphere of our comforts and happiness; if she has improved the various articles of our daily consumption, and given them to us at a greatly diminished cost; nay, if, in a word, we can prove that through her means, many hundreds, perhaps thousands, of lives have been annually saved, (as by the discovery of so simple an instrument as that of the safety lamp), surely it could not have been too much to expect, that as chemistry likewise extends the range of her influence over the properties and composition of all natural bodies, explores and traces the laws which regulate organic life, dives into those reciprocal affinities which different forms and conditions of inorganic matter exert upon each other, follows up the influences, changes, and decompositions which give rise to such diversified results in the material world, and teaches us how the most profitably to apply them to our several uses and advantage, surely, I repeat, it could not be too much for us to expect that she would also extend her aid and utility in directing us how best to improve the practice of agriculture; since every change which the soil undergoes, as well also of that of the plant from the hour of sowing to that of harvest, is dependent upon those very laws of attraction and affinity which it is the exclusive province of chemical philosophy to explore and teach.

Mr. Handley in a letter recently addressed to Earl Spencer, in speaking of *lime* as applied to agriculture, observes, "that its advantages have been developed by fortuitous result;" and this expression of Mr. Handley, has been warped in a way, I conceive, widely different from the sense in which he there used it. J. D. has to be informed that agricultural chemists are now perfectly agreed as to what constitutes the active energetic fertilizing principles of *bone manure*, throughout the different stages of its decomposition, whether in its *fresh* or green state, or in that, in which it exists after the extraction of its fat, and other animal matter; and although Sir H. Davy has shown how *lime*, and *magnesian lime* act, according to the relative quantity used, in producing luxuriance of growth or comparative sterility, still J. D.'s short sightedness, will not admit of his carrying his views so far, as to ascertain on what soils, chemistry will teach him to apply *lime* as a manure of the highest value; but he, seemingly contents himself by declaring the general inutility of the principles of the science, as pertaining to the benefit of agriculture, merely because the chemist did not (as he says,) "previously point out the fertilizing principle of *bones*," and I conclude, that he also infers that of *lime*; "and then direct the farmer to the use of them, as highly valuable manures. In like manner, J. D. also idly attempts to throw a distaste and discouragement upon the study and prosecution of vegetable physiology, as another branch of physical science applied to agriculture, apparently for no other reason, than that the system of the *excretory* power of plants, as so ably pointed out by De Candoile, has been applied by the chemist to account for the fact of "the how" and "why" plants of a *different genus*, succeed better, by cultivation upon the *same* soil in succession, than those of

the *same genus* though of a *different species*; and all this on the vague pretence that such a system "did not suggest to the farmer the rotation of crops." If, however, J. D., who I take to be a practical (?) farmer, would take the pains to make himself better acquainted with the fixed principles of that science—which, by the bye, he *very modestly* professes not to disparage—he would see ample reason in future, to withhold the flagrant expression of those doubts which to every enlightened mind must appear as so many proofs of his ignorance of the the subject he labours in vain to discuss. Again I refer him to the author whose theories he impugns (Davy,) and when he shall comprehend what he has (though only briefly) written upon, relative to the effects and operations of *lime* as a *mineral manure* applied to improve the nature, quality, texture and condition of different soils to which it is applicable; its powers in rendering *inert* vegetable and animal matter *soluble*, so as to become more rapidly adapted for the present food and future nourishment of plants, as well as constituting a *necessary*, if not an essential ingredient in the perfection of their organization and healthy vigour—he will cease to "see the theory hang so long," (like a mill-stone about his neck,) "without being reduced to utility," or even to "suspect that there is a something in the way" to impede his inquiry, or to prevent him, in the progress of that inquiry, from comprehending and fully understanding the legitimate truths of philosophical science.

In the early part of this letter, I have stated that I had abstained noticing certain errors contained in some of the articles communicated to the Editor of the *Farmer's Magazine*; but as J. D. expressly asserts, relative to the use and operation of *bone manure*, that the "chemist is only now endeavouring to ascertain the fertilizing principle, I might here attempt to elucidate the seemingly mysterious (?) operations of this one particular manure in producing such an almost invariably luxuriant crop; and I make little doubt but that I should to a great extent, if not altogether succeed in explaining, and that too, satisfactorily, the operation of *lime*, as also some of those other saline manures, of which it is the basis, to the purposes of agriculture, even to carry conviction to the mind of J. D., for I can assure him, that the principle of the action of *bone dust* is to the chemist now no longer occult. But as a disquisition upon this subject would carry me beyond the limits I can expect your indulgence in, as well also drive me into refutations of some already offered (supposed) theories of the action of *bone manure*, I shall, for the present, content myself by requesting such tyro-noviciates in science, as J. D., to wade a little deeper into the ocean of philosophic truth, ere they arrogate to themselves the extravagantly extravagant presumption of ridiculing *this* or that department of science, merely because its philosophy does not fall within the pale of their contracted understandings.—I am, &c., very respectfully, your's &c.

THOMAS BLUNDELL, M.D.

Wisbech, May 17, 1838.

APRICOTS.—An apricot tree trained by Mr. E. Partridge, in the grounds of Mr. Edward Spink, brewer, of Pontefract, is now loaded with as fine fruit as can be imagined. During the last week about 1,000 apricots were taken from the tree, being about one-third of the quantity, and about 120 weighed a pound weight.

EXTRACTS FROM THE REPORTS OF THE SELECT COMMITTEE OF THE POOR LAW AMENDMENT ACT.

(Mr. FAZAKERLEY in the Chair.)

JAMES PHILLIPS KAY, Esq., M.D. again called in, and further examined.

CHAIRMAN,—What was the last period at which any migration took place from Suffolk to the manufacturing districts?—I cannot positively answer that question; but I think it must have been about the close of the year 1836.

Since which time no recommendation has been made to families to migrate?—Since that period I think I can produce the committee full and satisfactory evidence that there is little or no disposition in the labourers in Norfolk and Suffolk to migrate anywhere, because though in the year preceding the period when I first visited Norfolk there had been a very extensive emigration indeed from the whole of the county of Norfolk, this last year an agent was sent down in consequence of representations, which had been made by benevolent individuals in the county, that there might be some advantage derived by affording facilities for emigration from particular unions, and that it would be useful if the government would provide a ship, and give a free passage to such persons as were willing to accept free passage. Upon the agent visiting about twelve or fourteen of the unions of Norfolk and Suffolk, he found that there were offers from only two families; and that there was therefore, instead of a great disposition to migrate or to emigrate, which had existed before, no disposition now, arising from the more constant employment of the labourers in their respective parishes. So that if the question is put to me whether I consider that emigration or migration are necessary in Norfolk or Suffolk, I should say that the necessity, if it exists at all, exists only in individual parishes, and in the most partial and confined districts.

You say that this disposition to emigrate, and the emigration, took place before the new poor law was introduced?—Before I visited Norfolk, some unions had been formed about that time by Sir Edward Parry, but neither Sir Edward Parry nor myself did anything whatever to promote the emigration; it originated entirely with benevolent individuals in the county, who made general representations of the advantages that the labourers would derive from emigrating, and induced the occupiers and owners of property to provide the requisite funds.

And at that time emigration was readily entered into by a part of the labouring population in Norfolk and Suffolk?—Certainly.

Did that emigration take place from districts in which the poor law was then in operation?—It took place over the whole surface of the county, and not more in districts where the poor law was in operation than in any other districts where it was not in operation.

Then it took place in districts, in the main, under the operation of the old law?—The largest portion of Norfolk was then not included in any union, and was under the operation of the old parochial law, or the local acts of the different incorporations.

The law has been now in operation for about two years in those counties?—The law has been, throughout pretty nearly the whole of the counties in operation for two years.

Do you observe the same disposition to emigrate now as existed in 1834?—In particular parishes I believe a disposition to emigrate might be found, but I think that those parishes are exceedingly few in number, and generally speaking, there is no disposition to emigrate.

To what do you attribute that diminished disposition to emigrate?—Because I am perfectly assured, from the letters which I have received from the chairmen of unions, that even in those periods of the year in which there was formerly least employment, there is now permanent employment for the labourers; and if the committee are desirous to have information upon that subject, I could read letters received from chairmen of unions during the course of the recent snow-storms which would give the most satisfactory evidence of labourers receiving employment during the last winter.

Mr. SCROPE,—You do not think that the indisposition to emigrate lately evinced has been at all occasioned by unfavourable accounts received from settlers who emigrated in previous years?—I believe the accounts received have been very favourable; but in so extensive an emigration as took place from Norfolk, seeing that the tendency must have been to favour emigration not of the most worthy or useful labourers, I think it is natural to expect that, to whatever part of the world the emigration is conducted, that some persons should be dissatisfied and not succeed there, as they have been dissatisfied and not succeeded here.

Do you say that from having heard instances in which failures have taken place?—I have heard instances in which failures have been related; but I do not remember from what districts of the country, but they have been exceptions to the more satisfactory accounts.

Upon the whole, the accounts have been so satisfactory that it would have been reasonable to expect rather an increase of emigration, than any falling off of it?—Certainly; I confirmed my own opinion upon that subject by addressing a series of questions to the chairmen of unions in Norfolk and Suffolk; those answers are very satisfactory, and I found my reply to the question put by the committee upon those answers of the chairmen of the unions.

Do you think that it would be desirable that the legislature should interfere so as to enforce the relief of all cases of able-bodied persons applying for relief, and willing to accept the workhouse; would you, for example, think that the legislature should open the door to all persons willing to enter, under the usual conditions?—The workhouse is open to all applicants whose indigence is proved, and a discretion to open the workhouse to those applicants is intrusted to certain competent authorities; I think the legislature has rightly and wisely deposited the discretion in boards of guardians and other authorities, and I doubt whether it would do well to allow any other mode of relief to be adopted.

CHAIRMAN,—Will you enumerate the parties?—Churchwardens and overseers of parishes, in case of sudden and urgent necessity; relieving officers, in cases of sudden and urgent necessity; justices of the peace, where an order shall have been refused by the churchwarden or overseer, in the case of non-parishioners; and the master of the workhouse, in any case of sudden and urgent necessity, when the pauper shall be brought to the door of the workhouse; and the board of guardians in all ordinary cases.

Mr. SCROPE.—But cases of able-bodied labourers out of work are not cases of urgent necessity, and therefore relief out of the workhouse could only be given to them by the board of guardians?—The great majority of such cases are not cases of urgent necessity, and therefore relief in such cases would have to be administered by the board of guardians.

As you have known instances in which applications in that shape have been refused improperly, and an improper discretion has been exercised, how is it that you would continue that discretion, subject to such occasional abuse by the boards of guardians, considering that upon the proper and careful exercise of that discretion depends the maintenance of the labouring population of the district in a state of decency and comfort?—I beg to explain that my meaning has been altogether misunderstood, and that I never did state, or intend to state, that I had known instances in which relief had been improperly refused by a board of guardians to applicants for relief. I intended to state that I had known instances in which great preference, by individuals of inferior intelligence, had been exhibited for out-door relief, as compared with relief within the workhouse; but I have never known the slightest indisposition on the part of the board of guardians to afford relief to able-bodied labourers within the workhouse when they were out of employment.

You are not acquainted, then, with any instances in which relief has been refused in the workhouse to able-bodied applicants, grounded, in your opinion, upon a desire on the part of any of the guardians to keep down the rate of wages of that district, or upon a disinclination to pay the expenses of their maintenance?—In the first place, I must entirely dissent from the opinion that the workhouse could be employed as a means of keeping down the rate of wages; and, in the second place, in answering the question directly, I must state that I have never known such refusals as are adverted to in the question.

The question supposed not that the workhouse was employed as a means of keeping down the rate of wages, but that the refusal of any relief, even in the workhouse, would have a tendency to keep down the rate of wages; would not the refusal of all relief have that effect?—I do not think the rate of wages is dependent upon the existence of poor laws.

CHAIRMAN.—Are the guardians, as far as your experience goes, in the habit of refusing orders of admission to the workhouse to able-bodied labourers who apply to them for relief?—Certainly not.

Have you known any instances in which able-bodied labourers, requiring relief, upon application to the guardians, have been refused relief within the workhouse?—Not one.

If such a practice should prevail, what would be the consequence?—The guardians would subject themselves to such grievous responsibility, being liable to indictment at law for neglect of the poor, and refusal of relief, that I cannot anticipate any board of guardians, in any single case, encountering those difficulties.

Mr. SCROPE.—But you stated that the result of the admission to the workhouse, which had been given in many districts, had had the effect of raising the rate of wages in many districts?—By which I did not mean to state that the workhouse could act directly in raising the rate of wages in any district; I meant simply this, that the removal of the great obstacles occasioned by the allowance

system allows the operation of natural causes to occasion a rise in the rate of wages.

But you read, just now, a passage from the letter of the chairman of a board of guardians, drawing directly the conclusion that a large number of labourers had been kept in employment, from offers having been made to the labourers of the district of the workhouse, and that, rather than pay for the expense of their maintenance in the workhouse, they preferred giving them sufficient wages by which they could maintain themselves?—I must distinguish between the rate of wages and constant employment; the answer of the chairman referred to the constancy of the employment; I understood the previous question to relate to the rate of wages.

The guardians, at all events, have a discretionary power of refusing relief in the workhouse in certain cases?—If, after due inquiry, they are satisfied that the applicant for relief has sufficient to support his family, and is not in circumstances of indigence, they would not use their discretion rightly if they gave him relief.

But the elements of their calculation, as to the means which he has, will consist mainly of the amount of wages offered him by his employer?—If the board of guardians thought that the amount of wages offered to an able-bodied man by his employer were not sufficient for the maintenance of the family, they would offer him and his family relief in the workhouse.

What security is there for their doing so, considering that the board of guardians have a direct pecuniary interest, as representatives of a large class of rate-payers, in refusing so expensive a form of relief?—The security is this, that in a board of guardians comprised of thirty individuals, one individual only will have an interest in the particular case under consideration; the twenty-nine other individuals will have an interest in the fair and equal operation of the general principle, which, if it be applied in one case, the twenty-nine individuals are a guarantee that it shall be applied in all.

But the whole board of guardians have an interest in preserving a low rate of wages, have they not?—I apprehend that the intelligent occupiers of Norfolk and Suffolk will tell you that they conceive they have a direct interest in the rise of wages to a remunerating price to the labourer, and that they have not an interest in the diminution of wages below that.

Take a practical example; supposing that an able-bodied labourer with a family of five children applies for relief to the board of guardians, stating that he has only 8s. from his employer, that it becomes then a matter for consideration to the board of guardians whether 8s. a week is sufficient for the maintenance of a man and a family of five children; suppose 8s. a week to be the average wages of the district; is it not clear that the employers of labour generally, and therefore that the board of guardians will have a pecuniary interest in preventing any elevation of the general rate of wages in the district; and, therefore, in laying down a rule that labourers having the average wages of the district should not be admitted into the workhouse, however large their families?—I conceive that in a country in which there were no poor rates, the circumstance in which such a man would be placed, would be this; that he would have no resource but casual charity, and that whenever we are to consider the true operation of the workhouse, we must have re-

course to a comparison between that state of things and the present. The protection afforded by the workhouse is, that the man has a maintenance provided for him and his whole family at the public cost, under circumstances not calculated to impair his industry. I believe that the board of guardians, in any case in which they conceived that the wages which the labourer received were insufficient for the maintenance of his family, would offer him the workhouse; and, contrasting that state of things with the condition of things which would exist if there were no such protection afforded, I think the workhouse is so regarded as a protection to the labourer.

Mr. HODGES.—Were you acquainted with Norfolk and Suffolk before you went there as assistant commissioner?—I was not.

Were you conversant with the working of the old law practically in any district before you went to Norfolk and Suffolk?—I had made it a matter of personal interest, to observe the working of the old law in various parts of England, during excursions which I made for that purpose, and for the purpose generally of ascertaining the state and condition of the labouring population.

That you had been in the habit of doing for some time previously to your appointment?—I do not mean to say that I had done it repeatedly and often, but that I had made it a subject of serious consideration, and of some personal inquiry.

Perhaps with a view to establish some general principle of political economy, rather than to make yourself master of the real condition of the poor in any part of the country?—My objects were general objects.

You say that the Rev. Mr. Sanby was chairman of the board of guardians; is he a benefited clergyman or curate?—I believe he is rector or vicar of Bungay.

An abatement in the amount of the rates has been principally found to be advantageous to those persons who are rated in respect of tithes and houses, and property of that description, rather than the agricultural districts?—I conceive that the largest amount of benefit is obtained by the farmers, who, instead of paying their money to labourers who are not employed, under circumstances which impair the general industry and fidelity of the labourers, now pay their money for productive employment, and so secure fidelity and industry among their labourers.

Is it the practice, in either of those counties which you superintend, to employ the labourers at times of the year when work is not to be obtained upon the roads at all?—I believe that the custom of employing labourers upon the roads is now entirely confined, with the slightest exceptions, to the employment of sufficient labour to keep the roads in a state of repair.

Then that which we know to exist in other parts of the country does not exist in the district under your charge?—It does not, to the best of my knowledge, exist in any district under my charge.

Are you aware whether the highway rates have increased considerably in many places, though the poor rate may have fallen?—I am quite certain that the examination of the books of the unions of Norfolk and Suffolk would prove that the highway rates, so far from having increased, have decreased.

Will not the strict enforcement of the principles of the new poor-law have the effect of throwing the employment and maintenance of the whole of the agricultural labourers and artisans employed in

agricultural business, upon the farmers?—Supposing that the influence of the new poor law were to retain any congestions of population, which previously had been created by the administration of relief under the old system, and to favour the existence of a surplus labour, I can suppose that the labour which would thus have to be supported by the farmers out of their capital, might be a source of loss and inconvenience to them; but it is one of the most useful tendencies of the new law, that it promotes a diffusion of the population to profitable fields of employment. I think the law affords the greatest security to the farmers that there shall be a cessation of this burden, of which they have previously naturally complained.

Have we not had indisputable proofs that, when the manufactures are not in a flourishing condition, they find it impossible to maintain workmen without recourse to parish aid?—My belief is, that in the manufacturing districts, of which I have considerable personal knowledge, there is less recourse to parochial aid, in periods of very considerable pressure, than in agricultural districts during periods of very much less pressure.

But, nevertheless, parish aid has been had recourse to in those circumstances?—It is much more common for the manufacturers to diminish the time of the employment of the labourers, and to retain the connection with them, than entirely to discharge them from their employment; and the pressure must be exceedingly severe and long continued which shall be accompanied with the consequence of a large number of able-bodied persons being thrown upon the poor rate.

Have we not had it in proof, that in Nottingham and other places it is as I stated, that they have had recourse to parish aid?—The pressure in Nottingham has been so severe that they have had recourse to parish aid.

Are you not aware that when the manufacturers are in a state of depression, it extends sympathetically to the agricultural districts?—I believe that, inasmuch as the manufacturers are, to a certain extent, consumers of agricultural produce, and inasmuch as, happily, in the present state of society, the interests of one class are bound up with the interests of another class, that everything affecting the interests of an individual class must, by the order of nature, and not by sympathy, affect the interests of another class.

If, in manufacturing districts in a state of depression, it has been found necessary to have recourse to parish aid, in a similar state of depression in the agricultural districts, would it not be necessary to have recourse to the same aid?—I by no means conceive that it would be necessary; I conceive that if the profits of capital employed in agriculture were diminished by any causes, that might operate and would probably operate upon wages; but I do not see that it necessarily should operate upon employment; and I am certain that nothing could be more injurious to the farmer than that, in order to relieve himself from such a temporary pressure, he should have recourse to the vices of the allowance system, which would have simply this affect, that he would give his money to support unproductive labour, instead of giving his money to support productive labour.

Are you at all aware that in any part of England, at the present moment, the agricultural interest is so far depressed that it is found impossible to employ the people in many parishes, in the usual man-

ner, and at the usual rate of wages?—I must confine my observations to my own district of Norfolk and Suffolk to which I have been by the pressure and urgency of my duties, practically, strictly confined; and in Norfolk and Suffolk, in answer to that question, I may state, that by the universal confession of all persons, a period of greater agricultural prosperity than that now existing has not been known for a long series of years.

Is not your reasoning upon the mutual interests of master and labourer necessarily based upon the fact of there being an even balance between the supply and demand in the labour market?—Inasmuch as the new poor law tends to produce exactly what is supposed in the question, it appears to me that the most important benefits are derived from it, and that any recourse which might be had to the vices of the allowance system would have the tendency of producing local congestions, which would interfere between the balance of the supply and demand for labour.

Is it in your contemplation that whenever in any district there may be a temporary depression and consequent non-demand for labour, the only resource the labourer should then have would be immediately to pack up his little stock of furniture and proceed to some other district in search of work?—I do not think that would be at all the consequence, as I have already stated, of a temporary depression of the interests of the agricultural community in any district; because though, as I have previously stated, I think that depression might affect the rate of wages, I cannot conceive how it could, consistently, with the interests of the agriculturists, affect the amount of employment.

Is not the work-house relief, which you have stated to be so expensive as to make the guardians and the farmers in the parish hesitate before they send a man with his family into the work-house, beginning to be confined very much to single men? On the contrary; it appears to me that the work-house is offered by all the intelligent guardians with a view to create employment for the families.

CHAIRMAN.—Is it not the practice to offer admission to the workhouse to men with large families? The practice is in all cases to offer the work-house to every man whose indigence is shown.

MR. HODGES.—Would it not manifestly be to the interest of the parish to afford employment to men with families, in case of depression, and to deny it to single men, and to offer them the house, it being clear that they could keep a single man cheaper in the house than they could a man and his wife and four or five children? In a parish in which there is not a larger number of labourers than there is productive employment for, it is quite plain that the whole of the labourers would be kept in employment, rather than they should be suffered to go into the workhouse; and if by the operation of causes which are quite foreign to the natural operation of the existing law, there should be a surplus of labourers beyond the number which could be profitably employed, I believe that the workhouse would be offered to men with families, and that they would be employed rather than the single men; and that the single men would be those who would have to go further a-field to seek for employment.

MR. MILES.—Have you turned your attention to the clauses of the Poor Law Amendment Act relative to bastardy?—I have witnessed the decisions of boards of guardians upon that subject; and as to the practical effects flowing from those decisions, I am not able to give any information to the committee from my own personal knowledge, but merely from

the general statements which have been made to me by chairmen and others, who have opportunities of making observation.

Will you state, generally, the modes adopted relative to women with bastard children, dividing those born previously to the passing of the Poor Law Amendment Act and those born subsequently; and state to the committee what system is adopted with regard to each in the district under your charge?—In the majority of unions the workhouse is offered to women with bastard children, on the ground that it would not appear to be expedient to give relief, which is commonly deemed more desirable, to women with bastard children, where it is not given to widows with a single child. If the child be under the age of nurture, the relief in the workhouse is commonly offered to the mother. If the child be considerably beyond the age of nurture, and there be a prospect of the mother getting into service and supporting herself, the workhouse is offered to the child separately from the mother.

In that case, does the mother pay for the maintenance of the child out of her earnings?—I think that is never required.

So that the child is an entire burden upon the poor rates?—If the child be admitted into the workhouse.

Does your answer apply both to those bastards born previously, as well as to those born subsequently to the passing of the act?—I believe that no difference has been made, in the majority of the unions between those born previously to the passing of the Poor Law Amendment Act, and those born subsequently.

At what age do you suppose the age of nurture ends?—Seven.

From the return which you have put in, I find that in the whole of your unions there are 615 able-bodied women in the workhouse, and that out of those 192 have bastard children; the next class is single women without bastard children, are those single women without bastard children likely to be the mothers of bastards?—I think that a great number of them would probably be women who may have led dissolute lives, and who probably come into the workhouses to be confined; but there are other young women in the workhouse, who, from want of skill, or who, from want of trustworthiness, cannot get situations, and who are consequently inmates of workhouses.

Then am I to understand that, in the return which you yesterday gave in of the inmates of the different workhouses, both in Suffolk and Norfolk, at least one-third of the able-bodied women who are now in these workhouse are women with bastard children, and, in addition to which one-third, there are likewise several single women, who come in merely to be confined in the workhouses?—As to the latter point, I should not like to trust to my memory; as to the former point, I think that the utmost dependence may be placed upon the return.

The number of children likewise, I find, in the whole of the workhouses of your unions, is 1,837; and out of those there are 543 bastards, making between a third and a fourth of the whole number of children within those workhouses?—I conceive that both are natural consequences of the operation of the poor law, which has this effect, not merely upon the men, but upon the women; that those who are trustworthy and skilful obtain good situations, and are supported by wages; and those who have given evidence of a want of skill, or a want of trustworthiness, are, to a certain extent, dependent upon the poor-rate.

Do you not think that if this goes on at all increasing, it is probable that, as far as regards the able-bodied women and their children, the workhouses will be very soon filled up by illegitimate children and women with bastards?—I do not see any evidence of an increase in the number of bastard children, or in the number of women of that class within the workhouses; but I have heard constantly the grievance stated, by the chairmen of unions, that dissolute women who are admitted into the workhouses leave the workhouse for three or four days, and follow their usual courses, and then return to it; and there is no means of restraining such an abuse of the maintenance provided for them within the workhouse.

Will you be kind enough to explain how it is that the woman is allowed to go out for two or three days, and return to her vicious courses?—She, for example, would give notice on the Wednesday, or the Thursday or Friday, if the board met on Monday, and return on the Monday; I am speaking of cases in which the women are within the workhouse without their children, or in which they take their children with them.

CHAIRMAN.—They must return to the workhouse by a renewed application which would have to be inquired into by the board of guardians?—Yes; but the board of guardians, finding them in an indigent condition, do not deem themselves authorised in refusing admission.

MR. MILES.—Then, as the system is at present working, it is probable that the workhouse will become the habitation of the dissolute woman and her offspring?—I cannot conceive that is an objection to the workhouse, that all honest and industrious people find employment out of it, and that only those are in it who are not honest and industrious.

Relative to the operation of the bastardy law, as carried on in Norfolk and Suffolk, do you conceive that the guardians act according to the law, by making it one of the conditions of relief to the bastard born previously to the Poor Law Amendment Act, that its mother should become an inmate of the workhouse?—I do not profess to have a critical acquaintance with the statutes, but as far as my knowledge goes, I believe I am correct in stating that the orders of magistrates, made previously to the passing of the Poor Law Amendment Act, were orders for the indemnity of the parish, and that the relief given to the mother was given after proof being afforded of her indigence, but without reference to the order of the magistrate: it was the custom, and that custom prevailed so extensively that conclusions were founded upon it, that all women with bastard children should become dependent upon the parishes, and, therefore, as a consequence of the prevailing custom, applications were made, in the vast majority of instances, to the magistrates, for orders for indemnity of parishes against the supposed necessary consequence of the dependence of the mother and her child; but I do not perceive anything in any of the clauses of the Poor Law Amendment Act which should separate the woman having a bastard child from the operation of the general principles of the law, that she should receive relief, when indigent, within the workhouse: otherwise I should conceive that the law was founded upon a most unequal principle—namely, that the indigent widow with one child was liable to relief in the workhouse, and the indigent woman with a bastard child was, in consequence of the orders made for indemnity of the parish to be relieved out of the workhouse.

Is there not a special provision in the Poor Law Amendment Act, that the new law relating to bas-

tardy should only apply to those born since the passing of the Poor Law Amendment Act; do you not conceive that the bastards born previously to the passing of the Poor Law Amendment Act are entirely excluded from the operation of the present law, and are amenable to prior acts?—I conceive that the 69th clause relates solely to the liability of the father and the mother of the bastard child to punishment, on account of the act of bastardy? I conceive that that clause repeals the operation of all those statutes, both with respect to the fathers and mothers of bastard children, before and since the passing of the act, inasmuch as they relate to the punishment of mothers for the act of bastardy.

Then, if, upon orders being applied for against the fathers of bastards, and not having been made subsequently to that order coming into operation, the magistrates shall have ordered the imprisonment of those fathers, will they, or will they not, have acted illegally?—I confess that my critical acquaintance with the law is not such as would enable me to give an opinion upon that subject, which I think it would not become me to do, seeing that I have no doubt that if the law has been so administered it has been administered by magistrates who have much more acquaintance than I can have had with those statutes.

Looking at the law as it at present stands, do you not conceive that it will become perfectly inoperative?—I conceive that it would be of great advantage that the law should become inoperative, as far as any remedy is given against the father; because I think that those remedies are generally employed as a means of compelling marriage, or operating in gratification of the vindictive feelings which are very frequently engendered by the acts preceding bastardy, and by the desertion of the women; if it be considered desirable, the Legislature is competent to frame and to pass an act for the punishment of seduction; but it appears to me, that all we have to do under the Poor Law Amendment Act is to decide what is the best means of relieving that particular form of indigence; and, I conceive, that, supposing the child to be dependent, and any remedy be given against the father, that rather tends to promote the increase of that particular form of indigence than its diminution.

Have the boards of guardians in Norfolk and Suffolk applied for orders of affiliation in any case at quarter-sessions?—In exceedingly few.

Those cases have been exceptions, rather than the general rule?—Very rare exceptions indeed.

MR. ESTCOURT.—In cases of bastards born previously to the act, where orders have been obtained, should you consider the mother in a state of indigence, who has such an order, although she is unable to enforce it?—I believe it never was competent to the mother of a bastard child to enforce the order of the magistrates against the father; I believe it was only competent for the overseer, on behalf of the parish, to apply for the enforcement of the order, and that only legitimately in cases in which money had been paid to the mother for the relief and necessary maintenance of the child; if, therefore, the mother is no longer dependent, in consequence of the operation of the test upon her indigence, it appears to me that she had never the power, and that she has no right to apply for the enforcement of an order of bastardy against the father.

Should you think it a right thing that the board of guardians should order such a woman into the workhouse, instead of enforcing the order through the medium of the overseer?—I should conceive it very injurious if the board of guardians were to grant re-

lief to the mother of a bastard child in a more desirable manner than to the mother of a legitimate child; and it appears to me that we can have nothing to do with the punishment of the father, or his escape from the burden, in consequence of the cessation of the indigence of the mother, inasmuch as the primary consideration as to what ought to be done for the relief of various classes of able-bodied paupers is, how shall relief be administered so as to create a preference for the reward of industry.

In that view it is a matter not taken into consideration in the district under your superintendence, according to the practice of the boards, whether the mother has obtained an order against the father, which she has enforced, or whether she has not?—There are certain exceptions still existing, but with those exceptions the practice is completely as described in the question.

Mr. MILES—Has not the practice completely changed as respects the old and the new law; was not the bastard affiliated to the father and mother previously, and is it not affiliated now to the mother alone?—During the period when there were more slender opportunities for the employment of women, and there was a more prevalent pauperism throughout the country, all mothers of bastard children were, I think, dependent, and the orders of the magistrates were supposed to be enforced, though practically a great majority of them were not enforced, but since the Poor Law Amendment Act came into operation, the indigence of mothers of bastard children, and of widows also, has to a very large extent ceased, and in consequence of that, the orders for indemnity of parishes have also become inoperative; the mother is now liable for the support of her child; whereas, previously the burden was supposed to be divided between the father and the mother.

Was not the greater part of the maintenance thrown upon the father, in those orders?—Commonly.

Why do you conceive that the indigence of mothers of bastard children, and the indigence of widows and young children, has decreased, since the passing of the Poor Law Amendment Act?—Widows with one or two children now obtain employment, and also women with bastard children obtain employment.

Is that the case where the children are very young?—In one or two unions in my district, I believe there are no widows with fewer than two children, dependent, unless in the infancy of the child, or sickness.

But there has been no higher rate of wages which leads you to suppose that they are less dependent now than they were formerly?—No, there has been a greater disposition to seek, and a greater disposition to afford, employment.

Have you any return relative to marriages which have taken place in Norfolk and Suffolk?—Last spring I instructed the relieving officers of a great number of unions to apply for returns of the number of marriages which occurred in the parishes in their district in the years 1833, 1834, 1835, and 1836. A considerable difficulty was experienced in procuring those returns; where they were procured, they were given by the clergymen of the parishes, very kindly, as a favour, to the relieving officers; but they did not comprise, in consequence of certain difficulties which were experienced, every parish in every officer's district, but only certain of the parishes; but in every case in which the return was obtained from any parish, it included all those years.

From the return do you find that the number of

marriages has increased or decreased in the period?—I find in this return, that the marriages in the year 1833, in the districts to which it relates, were 762; in the year 1834, they were 771; in the year 1835, they were 663; in the year 1836, 549; which I believe may be taken as evidence that there has been a considerable diminution of improvident marriages in the districts.

And that has been occasioned greatly by a return to a good administration of the poor laws?—I believe it to have been occasioned entirely by the anticipation that the labourers had of the effects of the change of the law.

And by the system of out-door relief per head, or allowance per head, having totally ceased?—Certainly.

THE CORN LAWS.

TO THE EDITOR OF THE FARMER'S MAGAZINE.

SIR,—In your last number there is an address to the Norfolk farmers on the Corn Laws, dated from Caistor, upon which I take leave to make a few remarks.

Had not the author shown himself to be a farmer of forty years standing, I should have thought that he, like Mr. Roebuck when he sat in the House of Commons, had been a hired lawyer. The writer seems to me to have had chiefly two objects in view, one to eulogise the Earl of Leicester for improvements made by him in breeding and grazing sheep and cattle, in which every good and honest man ought most heartily to join; the other, to traduce the character of the Marquis of Chandos, who more than any other man has served the whole of the agricultural interest of this kingdom. The noble lord might generally in advocating that interest in a late debate make use of the term farmer, as you do, in the title of your highly useful magazine, but surely the greatest tyro amongst us knows and understands that that which ruins the farmer necessarily hurts the landowner, and the labourer in husbandry, and I cannot discover in his lordship's "argument," that he pretends to think the farmers are to be "the only sufferers" by the repeal of the corn laws.

There is indeed another object which may be attributed to this Caistor gentleman, but as he has farmed for forty years, I can hardly believe he really desires an exchange of the present corn law for one giving a fixed duty of 10s. per quarter on wheat; he however says, "I would admit foreign corn at all times to be imported on paying a duty", and he speaks of 10s. per quarter. Let me ask, would a duty of that amount be tolerated in this country when we really want wheat? We all know it would not, it follows therefore, that when we need foreign corn it will be admitted free of duty, and when we do not, the country will be inundated with it at the low duty of 10s. per quarter. Now had foreign wheat been admitted to our markets on these terms in the last few years, would not the price of our growth have been less than it has been by at least one third? No one I imagine will dispute this point with me. He seems to sympathise with the tenant farmers, remembering, as I presume he does, the distress which they suffered in 1815 and 1822, from reduction of prices when they were better able to endure loss than at the present time, surely he must think his experiment a dangerous one, and one likely seriously to affect and injure this valuable and truly patriotic class of

men; the landlords and labourers are likely to suffer too, and I mistake the matter very much if the manufacturers also will not suffer exceedingly if the poor lands of this kingdom are thrown out of cultivation, and the cultivation of the rest very much altered, as it must be, if foreign wheat is admitted on paying a duty of 10s. per quarter, the duty on other grain reduced in the same ratio, and the yearly produce of our lands will be less by 60 or £70,000,000 than it now is, whilst we are obliged to pay to foreigners 20 or £30,000,000 annually for the purchase of corn.

The notion that foreign nations would take of us the same amount in broad-cloth and bombazine is, I think too absurd even for the wildest political economists to insist upon, the last seven years experience puts such ideas to scorn; they will take as much of our manufactures as they want and no more, this they do at the present time; it may be true after they are enriched by our gold, they will spend something with us until they have accumulated enough to set up business for themselves.

Of the effect of the present corn laws no one ought to complain, prices have lately been low, but the corn laws are not blameable for this, for when we have plenty of corn of our own growth and the prices low, the duty is very properly, I think, so high as to prevent importation in toto.

Fluctuations such as we formerly experienced have not occurred since the present corn laws were enacted, in proof of which the official returns of prices from 1797, show a less degree of variation in the last five years than in any other equal period. Had we to depend upon foreigners for a large portion of our wants in this respect, it is dreadful to think on the amount of fluctuation and consequent distress which may be expected.

In conclusion I will say to this gentleman, and the enemies of the corn laws generally, in the words of the late Mr. Huskisson, "If in this respect their desires were complied with, a heavier curse could not befall this nation." At another time on this subject, the same great statesman said, "There is no effectual security either in peace or war against the frequent recurrence of scarcity approaching to starvation, but in our maintaining ourselves habitually independent of foreign supplies, and in order to secure cheapness and sufficiency, we must ensure to our corn growers that protection which has produced these blessings, and by which alone they can be permanently maintained."

I am Sir, your obedient servant,

AN OLD YORKSHIRE FARMER.

Yorkshire, May 18, 1838.

IMPORTANT TO FARMERS, &c.—How to preserve scythes, sickles, reaping hooks, and other iron and steel tools from rust after the season for using them. Wipe them clean and dry, then hold them before the fire and keep drawing them backwards and forwards until warm enough to melt wax; then take some bees' wax and rub it all over. A halfpenny worth of wax will be sufficient for a scythe. Then put it in a dry place, but not warm; it needs no other covering. The usual method is to wrap a dry hay-band round; but in winter time this naturally contracts a moisture, or the damp air strikes in betwixt the folds of the hay-band.

STEAM CARRIAGES ON COMMON ROADS.

In our April number we published a description of Sir James Anderson's steam carriage for common roads, and also of his boiler for steam engines generally. Within a very few days all our copies were taken, and latterly the applications made have been so numerous that we consider it advisable to re-insert the plates and leading particulars of the invention. We take some little credit to ourselves for having drawn attention to this matter. And it is plain that the public mind is becoming daily more impressed with the necessity which exists for the establishment of steam conveyances on the *natural* roads of the country. *Natural*, we say, because they are the *established* avenues of communication, created by the wants and necessities of the surrounding inhabitants, the means of their individual prosperity, and of the general good. We may call them the arteries that disseminate life and energy to all around, winding their way almost as nature pointed out, through the luxuriant valleys of our country; tortuous it is true, but from this very reason calculated to give equally to *all* the good that *all* are equally entitled to receive, and not to isolate and cut off thousands from free intercourse with the remainder of the country, nor to benefit the few to the destruction of the many. On these *natural* roads we trust ere long to see steam carriages successfully at work, and hail with pleasure the company formed to carry this national undertaking into effect. That there were difficulties to overcome there is no question, that they have been overcome we confess we feel satisfied, nor could we ever satisfy ourselves that they could not. The report of the House of Commons says—"That the substitution of inanimate for animate power in draught on common roads is one of the most important improvements in the means of internal communication *ever introduced*, and that its practicability is fully established." A few failures raised up popular prejudice, for we are ever more prone to believe evil than good, and the giant mind of England looked with more favour on the mighty plans that offered speed like the winds even at the cost of millions, to the simple one that made no change, save to let us travel with *only* a double expedition and at half the cost, and kept our vehicles still upon the common roads; visions of profit rose in proportion to the sums *estimated* for the accomplishment of these wondrous works, and *curiosity* alone lent thousands in the aid. Who is it that does not recollect the almost breathless expectation that preceded the opening of the first Railway?—who then of the multitude thought one moment of its *cost*?—but it is different now—the novelty has worn off, we have all been carried along a railway without the anticipated sensation of either losing our eyesight or our breath; and in cooler moments we begin to think that some two or three millions of money is rather too large a sum to expend for enabling us to take a thirty miles journey, or some *six* millions! to establish a hundred mile line. We begin also to regret the loss of our pretty roads, and the pretty lassies that here and there peeped upon us as we wended our way on business or on pleasure; we regret those sweet villages we have passed, thus telling us of their peacefulness and innocence; and those towns that ever and anon broke upon us studded like diamonds over our lovely country, giving it wealth, and strength, and usefulness.

We begin to regret the loss of what has gratified ourselves, and we then think "what have we

gained?" perhaps we feel deeper still and ask, What will become of these towns and villages hereafter, divested of the business brought by the intercourse through them, and shut out from their accustomed communication? Who can think a moment of such as are unfortunately situate out of the *level* that may attract a railway, and not see them dwindle in his mind's eye to half their consequence?—see the roads, deserted and unrepaired, the property adjacent sinking in value, vested interests lost or deteriorated; those towns alone, where railways run, reaping all the benefits almost to the destruction of others! And this too, done at "a cost enormous," capital expended, ten times more than sufficient to establish steam conveyance on common road over every part of the kingdom!

It has been estimated in an article published some time since in the *British and Foreign Review*, that the average number of passengers taken by each train, between Liverpool and Manchester, is *sixty*, for which one engine is required throughout, and *one* to assist on the inclined planes, which may be fairly called two for each train. It has also been estimated by several engineers, and proved before the House of Commons, that one steam carriage on a common road can convey thirty passengers and luggage, and in addition to this we are told that Sir James Anderson has *contracted* with the Company now formed, that the carriages to be supplied under his patent, shall not only do so, but convey at least a ton of luggage, at an average speed of fifteen miles per hour, and at a cost for fuel of 4d. per mile; and it is further estimated that 1s. 3d. per mile will cover all expenses, or $\frac{1}{2}$ d. per mile for each passenger.

Each of these carriages will be supplied, by contract, for 1,000*l.*, consequently a capital sunk of 2,000*l.* (for two carriages) will enable *sixty* passengers to be taken on *any road in the kingdom*, at fifteen miles per hour; while it requires two engines to convey the same number on the Manchester line, say at 20 to 25 miles per hour, which line of road cost, we believe, three millions.

With such advantages to the public, and to the supporters of the undertaking, we cannot doubt that so legitimate an object will be vigorously carried into effect, particularly when we find some of our ablest noblemen and members of parliament in its direction; the Earl Balcarras, Lord Stewart-de-Rothsay, Captain Boldero, M.P., Mr. Hawkes, M.P., Mr. Stuart, Mr. Broadwood, M.P. &c., &c.

The first carriage (built after the experimental carriage had been proved) will be set to work, we understand, in about a month. And we understand that companies are already formed in France, Belgium, and America, under the most influential auspices. We look with great anxiety for the arrival of the carriage in London, and shall have pleasure in laying the full particulars before our readers.

Although several unsuccessful attempts have been made to establish steam conveyance on common roads, it is well known to *scientific* men that their partial failure was attributable to a deficiency of funds to combat the obstacles and annoyances which presented themselves, rather than to any material defects in the principles upon which the machinery was constructed; on the other hand, those persons who are unacquainted with mechanical science and the nature and properties of steam, were led to conclude from the failure of the early efforts alluded to, that the project was an impracticable one. But who that has read the history of the steam engine, or remembers the progress of the invention of

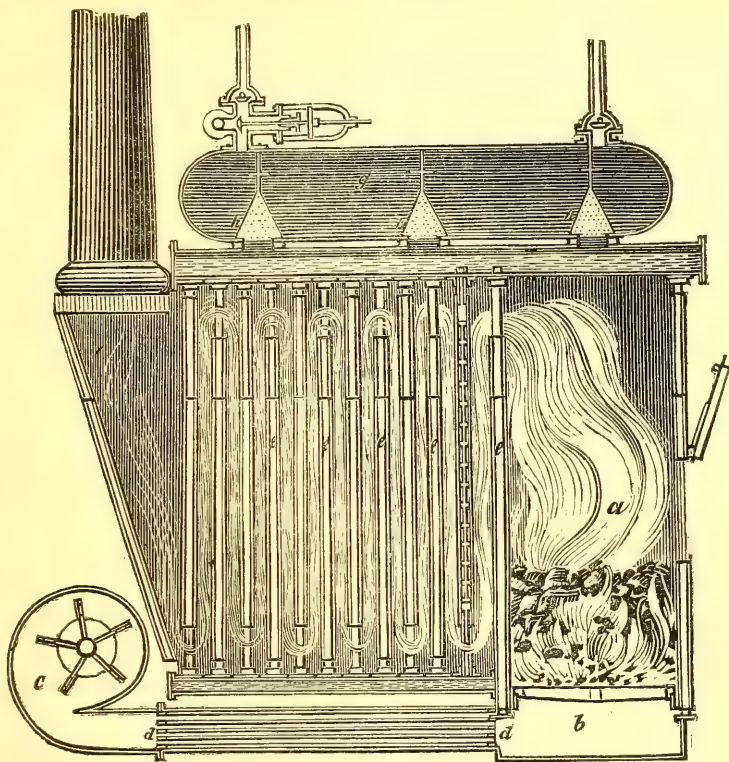
gas-lighting does not know that these splendid discoveries, from which we have derived such vast benefits, were considered by the public at large as visionary and absurd! Not ten years ago, such was the clumsy and imperfect construction of locomotive engines upon railways, that the highest speed they attained was scarcely more than six miles per hour, and this too at a period when several of those individuals who paid early attention to the subject, (amongst whom was the public spirited and indefatigable Sir James Anderson), were actually propelling these heavy vehicles with double the railways' speed along the *common gravelled* turnpike roads! It was these occasional exhibitions which demonstrated to railway mechanics, that by copying the improved arrangements of the steam carriages for common roads (especially with respect to the efficient mode of generating very high steam pressure in compact boilers) a vast increase of velocity might be obtained on railroads; and hence has resulted that rapidity of motion which has astonished the public, but which was confidently anticipated by those who had given attention to the subject of steam locomotion. The cause of this increased speed obviously arises from the differences in the asperities of the surfaces travelled over; the roughness of the common road presenting at the least ten times more resistance to the rolling of the wheels than does the comparatively smooth surface of iron rails. And the result of this application of iron rails to roads, is, that a locomotive engine of a given power, will propel or draw upon it ten times the load that it would upon a gravelled road. A more practical illustration of this fact may be given by stating that an ordinary sized engine of sixteen horse power will propel upon a railway 100 tons with the same facility as the same engine would propel ten tons upon a common road.

It is now of the utmost importance to bear in mind that this superior speed in the railway has only been obtained by the expenditure of about *fifty thousand pounds per mile* in its construction. This enormous outlay is rather below than above the average cost of several of those extensive lines of road which have been denominated the "grand trunks" of the kingdom; and in several of these it is questionable whether the "returns" will ever amount to the common interest of the capital sunk in their formation. And as it clearly follows that the railway system is perfectly inapplicable to the intersecting and parallel branches of the "main trunks," it becomes a consideration of moment to adopt on these the best mode of conveyance or transport which is practicable; and that mode is unquestionably obtained by the application of steam power. Steam power (amongst many other reasons that might be adduced in favour of it) will cost only about one-fourth part of the expense of horse power; consequently the traffic will be less costly to the public; besides which the roads will be much improved by the broad cylindrically-turned wheels of the steam carriages. It may be somewhat too early to speculate upon such a plan, but we are very much inclined to think that where the width of the road would admit, and other circumstances were favourable, the laying down lines of solid stone for the steam carriages to run upon as has been done in the Commercial-road and at Limehouse, would not only prove more economical as regards the wear and tear of the roads, but would also accelerate the speed and enable the engine to propel a much heavier weight, by avoiding that resistance which the softer materials of a common road must offer.

Our limited space will not permit us to extend

our remarks in this part of the subject, we shall therefore proceed to the fulfilment of our promise, of giving a description of Sir James Anderson's new

patent boiler. That part of a locomotive engine, being, as it were, the heart or seat of life of the machine.



The above engraving affords a side view of the boiler, partly in section, for the better illustration of its construction. At *a* is the fire chamber, and at *b* the ash pit. A blowing machine is represented at *c* by which the air is forced through an assemblage of pipes *dd* (contained in a condensing cylinder) into the ash pit, whence it ascends between the fire bars and excites the combustion of the fuel; the current of heated gases thence ascend, and passing over the first of a series of broad flat water chambers (the edges of which *eee* are only seen in this view, it descends between the first and second, then turning under the second, it ascends between the second and third, and so upwards and downwards throughout the series as indicated by the current of flame until it reaches the chimney *f*. The sides and top cases of the fire chamber, as well as the sides and top cases of the boiler are also water chambers, in order to generate as much steam as possible within the space, and to prevent any undue radiation of caloric, so as to adapt the apparatus in an especial manner to steam boats as well as to steam carriages. One of the water chambers is shown in section for the better comprehension of their construction. They are formed of two flat plates each containing about fifteen superficial feet placed about two inches asunder, and held in this position by the interposition of peculiarly formed frames of solid iron, through which and the external plates they are strongly rivetted. The plates are thus united at about every three inches distance over the whole surface, so as to render it impossible for any force of steam that can be generated to tear them asunder. The water is supplied to the boiler

by the ordinary means, which fills the lower horizontal tube and rises thence uniformly through short vertical tubes into the water chambers *ee* which are always kept full to the top and even partly filling the horizontal tube above, whence the steam enters the reservoir through the perforated caps which impede such aqueous particles as might be borne upwards along with the steam, and returns them into the boiler, while the purified yet dense vapour passes freely through into the reservoir for the supply of the engine.

A boiler of this kind was, we understand, completed about fifteen months back, and has continued to work every day since most successfully, without producing a leak or the slightest derangement, and this notwithstanding the steam has frequently been raised to upwards of 500lbs. pressure upon each square inch of surface! Now the boiler contains 360 feet of working surface, which multiplied by 144 gives 51,800 inches, and this multiplied by 500lbs. gives the enormous pressure of 25,920,000lbs. upon the whole boiler!! A compact machine like this, which is capable of generating, sustaining, and applying so enormous a force, affords, we think, a pretty good test of the excellence of the workmanship as well as of the principle of its construction. It is very satisfactory to have a boiler capable of resisting such a pressure, but one-tenth of it is fully adequate to all the requisites of actual practice. Viewing it in this light we proceed to consider its horse-power according to the extent of its heating surface; the usual datum for which is eight feet of fire surface and flue together, for each horse power; and as

the surface of the boiler is 360 feet, it is calculated to afford forty-eight horses power. Now one-half of this power, or even one-third, sixteen horses, according to our previous estimates, with respect to the railway is competent to do all the work that it is designed to do by the inventor.

Having thus, without working with steam of great intensity, abundance of power capable of overcoming all the obstructions of the common road, the inventor has since applied it to a locomotive carriage.

It has been calculated that in fixed machines the steam-engine has displaced the employment of three hundred thousand horses, which is equivalent to the manual force of two millions of labourers. And when it is considered that steam-engines require no relaxation from their labour during the twenty-four hours of the day, and that horses must rest sixteen hours out of the twenty-four, it becomes evident that the steam-engines afford a power equal to nine hundred thousand horses, which is equivalent to the muscular force of about six millions of men; an amount far exceeding the manual labour of the whole of Great Britain! These calculations, it should be noticed, have reference only to fixed engines; but how great an addition shall we shortly have to make for the locomotive engines on rail-roads, and the vast accession of steam-power on canals, rivers, and the great ocean itself!

Amongst all these noble enterprizes for increasing our national prosperity and individual comfort, we turn with peculiar satisfaction to the project of Sir James Anderson, for the establishment of steam-waggons and carriages on common roads; because it is calculated not only to accelerate the transmission of goods, and reduce the cost of transport, but what is of vast consequence in a national point of view, to supersede the employment of about 100,000 horses, which consume the produce of as much land as would yield support to 600,000 of our fellow-creatures. We are quite aware of the opinions entertained by many of our Agricultural readers on the supposed effect of railways upon the demand for horses, and provender to support them. It is by no means unnatural that at the first blush, and without mature reflection or the benefit of experience, we should exclaim against what is perfectly manifest, that if you render the employment of one hundred horses upon any line of road unnecessary, the consequence must be that the breeders must rear one hundred horses less, and that the oats, beans, hay, and straw heretofore necessary for the support of these animals will be no longer required. Experience, however, and the opinions of men best informed upon the subject, clearly prove that such is not the fact. It has been ascertained, with a tolerable degree of accuracy, that since the establishment of the Liverpool and Manchester Railway, as many additional horses are employed in the conveyance of passengers and goods from places on both sides of the line to the railway, as were before used upon the road from Liverpool to Manchester. But independent of the vast increase of permanent manual labour created by upholding the railroad, its locomotive engines, &c., we must not lose sight of the additional employment occasioned by the attendance upon, and provision for thousands and tens of thousands of persons who, in consequence of the decreased expense, now travel between those places upon business or pleasure, who did not travel before. But it will be retorted upon us, the establishment of steam-carriages upon common roads will drive off the cross roads the horses which have been removed from the direct roads in consequence of the railways, and will render them absolutely unnecessary. This recalls to our recollection

a work in the *Harleian Miscellany*, which we adverted to upon a former occasion, but will not be out of place here, wherein the opposition to the increase of stage-coaches in the year 1673, is alluded to, and it is stated that the country would be wholly ruined unless the multitude of stage-coaches and conveyances travelling on the roads were, all or most of them, suppressed, especially those within forty or fifty miles of London.

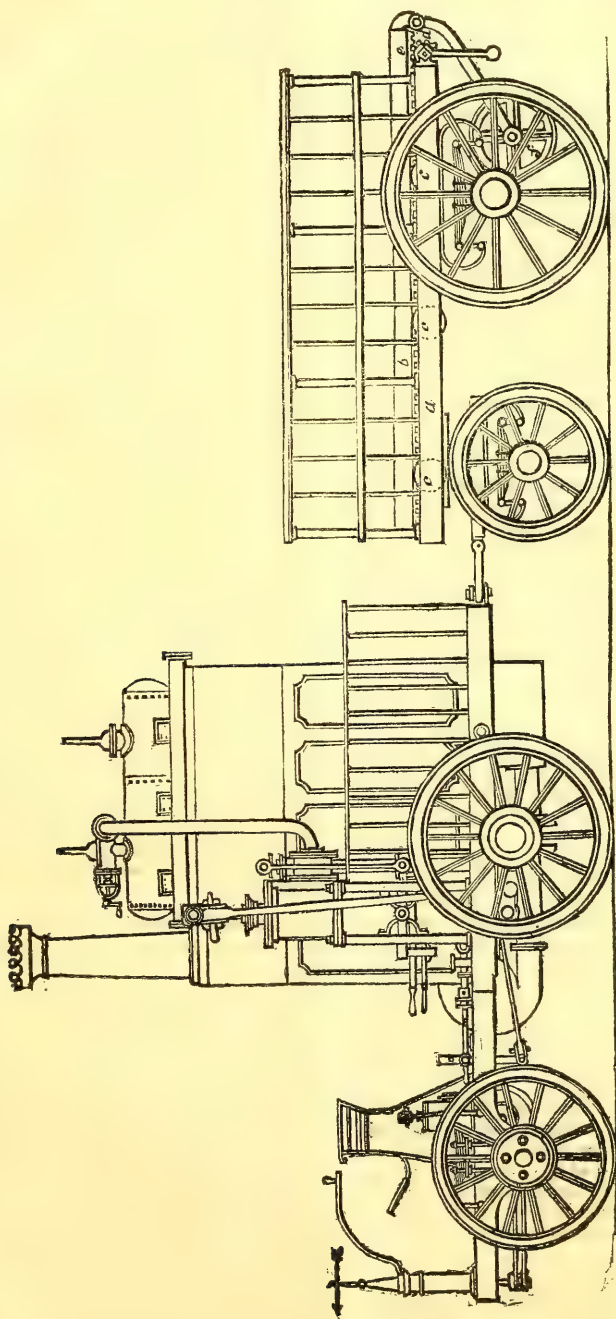
"The inns on the road," says the work alluded to, "will all be ruined if this be not done, inasmuch as when persons travel so quickly to their journey's end they will need no refreshment on the road. The breed of good horses will be destroyed, for none who are able to travel conveniently from place to place will keep saddle horses; and again, that as fewer clothes are worn out—less property wasted in travelling by the new method than by the old one, trade will be dreadfully injured, and 100,000 persons totally deprived of bread. Numerous petitions, too, from various parts of the country were presented to Parliament, urging this same necessity, but unfortunately without effect," &c., &c., &c.

At a much more recent period we have seen the common carriers upon turnpike-roads petitioning Parliament to refuse the application of companies for leave to cut canals. It may be laid down as an axiom, that facility and cheapness of communication not only promote travelling and traffic, but increase employment of every kind. So will it be in this case, if so many horses be not wanted on roads upon which steam conveyance is adopted, by far the greater part of them will be requisite to perform the increased work in those places where the steam-carriages cannot go. But suppose the number of horses now kept should be in some measure reduced, and the land now used in producing food for beasts be devoted to increasing the supply of food for man. Is it not clear—with what justice, with what policy, with what propriety we will not now stop to enquire—that the opinion of the consumers of grain in this country is setting strongly in favour of a free trade in corn. How can the British agriculturist most successfully resist such a demand, but by using every means in his power to provide a supply of grain increasing proportionably with the rapid growth of our population, and at a price which will afford a living profit to himself, and yet not be so dear as to press hard upon, or excite the irritability of the mere consuming part of the nation. This we are ready to admit may to a certain extent be effected by an improved cultivation of the land now under tillage, and by the further enclosure of waste land, but it must not be lost sight of, that as the general condition of the inhabitants of the United Kingdom improves, and which we apprehend no one will deny that it is now doing, the consumption of each individual respectively will increase, and a demand be created which will require very considerably enlarged resources to supply. Our sincere and firm belief is that the agricultural interest will be amongst the foremost to benefit by the introduction of steam-conveyance upon common roads.

There are two different methods of applying locomotive power for moving carriages on common roads, whether employed for conveying passengers or goods. In the first, the locomotive engine is contained in the same carriage as that which contains the passengers or goods; in the second, the locomotive engine is contained in a distinct vehicle, and it may be used either to propel before it or drag after it another carriage containing the load. Each of these plans has advantages peculiar to itself, which our space will not permit us to discuss; we shall therefore briefly state, that the

preponderance is greatly in favour of the dragging method, and that it has in consequence obtained a decided preference with the experienced projector, whose labours we are noticing. But whether the

locomotive engine be propelling or dragging, the machine is the same, which we shall proceed to describe, with reference to the engraved figure annexed.



The frame of this locomotive engine is entirely metallic, and its parts are combined so as to obtain the utmost elastic resistance. It is mounted upon four wheels, through the intermediate agency of a

peculiar description of springs, so constructed as to prevent the concussions arising from an ordinary road having any injurious effect on the machinery. The boiler is of the same kind as previously described,

as will be recognized by the resemblance of the steam chamber, the valves, and other external parts. The space it occupies in the vehicle is about six feet in length, and three feet four inches in width; thus affording plenty of room for the steam, cylinders, and their working appendages, which are alike on each side, similar to that represented in the figure. A blowing machine is introduced to force the air through the fuel, and the current of heated matter is further accelerated by the exhaustion produced on the chimney by the discharge therein of a portion of the waste steam; a part of this steam being condensed, and returned to the boiler by the force pumps. This condensation is effected by discharging the steam into two large horizontal cylinders fixed underneath the carriage, each of them containing an assemblage of small tubes, through which the cold air is forced to supply the furnace; the steam in the cylinders is thus converted into water, and the heat contained in the vapour is transferred to the air before it enters the furnace. The mode adopted for reversing the motion possesses great simplicity, and there are several other combinations in this engine which we should like to explain, but we must pass over them, in order to give some description of the waggon appended to it.

To avoid the damage which goods often sustain by being transferred from one carriage to another, in order to deliver them at their required destination, and the inconvenience and loss of time which often results therefrom, the waggon has been so constructed that any part of its contents may be readily got at and delivered, without disturbing the remainder, the intention being to deliver each package at once, where addressed. The bottom of the waggon consists of a moveable platform, supported upon rollers in sleepers contained in the bottom of the vehicle, which permits it to be run in or out, and to be loaded or unloaded at any part of the platform. At *a* is the bed of the waggon; *b* the moveable platform; *c* the roller supporting the same; *d* a toothed rack attached to the under side of the platform; and *e* a pinion connected to the bar and working in the rack; *f* is a roller at the end of a short strut for supporting the platform when the latter is drawn out: this part of the machine is represented as shut up, to save the space its extension would have required.

The working of locomotive engines for dragging the waggons will unquestionably be attended with vastly greater facilities than that of the rapid coach system; and the wear and tear of the machinery will bear no comparison in extent to the latter mode. A great weight may be drawn at a steady motion of about seven miles per hour, which is more than double the rate of the ordinary "fly waggons," and we are informed at an expence in mechanical power far less than that of horses. The cost is estimated at twopence per ton per mile, which is equivalent to sixteen shillings and eightpence per ton for 100 miles distance, the usual charge for which is seven pounds! Of the correctness of the latter part of the statement our commercial readers are aware, and it should be borne in mind, that not one farthing is sunk in the formation of roads, whereas in railways it averages full fifty thousand pounds per mile.

The public seem for some time to have entertained an opinion that it was folly to attempt the running of steam-coaches upon common roads; this may in some measure be ascribed to the repeated disappointments experienced upon the trial of several steam-carriages which have been from time to time announced, but not one of which has as yet succeeded. In almost all, if not in all the previous in-

stances, the public has been called upon to assist the projector of the steam-carriage in carrying into effect his improvements, the expense being too heavy for him to bear alone. Here however the case is just the reverse, Sir James Anderson has expended his own time and his own money; he has completed his improvements, he has tried his carriage and found it to answer his most sanguine expectations, he produces it in its perfect state, and he calls upon the public to adopt it so soon as he shall have proved by open trial, by actual use, that it possesses all the capabilities and advantages which he represents. Amongst other prejudices, one of the most unfounded appears to have been, that carriages thus propelled would be more injurious to the roads than carriages drawn by horses. The evidence given before the House has incontestably proved the reverse. It has been fully demonstrated that the wear and tear on roads is caused almost entirely by the feet of the horses, and if we reflect for a moment, this truth must be clear, and the advantage, as regards steam-carriages become manifest; for, in order to obtain a sufficient degree of adhesion, so as to prevent any possibility of slipping, the wheels being broad, act as rollers on the road, pressing down every inequality they meet; and there can be no doubt that if roads formed like the present were run on only by steam-carriages, they would become in time almost as solid and even as a flagged way.

Mr. Farey, in his evidence says:—

"The danger of being run away with and overturned is greatly diminished in a steam-coach. It is very difficult to control four such horses as can draw a heavy stage-coach ten miles an hour, in case they are frightened or choose to run away; and for such quick travelling they must be kept in that state of courage that they are always inclined to run away, particularly down hill, and at sharp turns in the road. Steam power has very little corresponding danger, being perfectly controllable and capable of having the power reversed to retard it going down hill. It must be *carelessness* that would occasion the overturning of a steam-coach. The chance of breaking down *has been* hitherto considerable, but it will not be more than in stage coaches when the work is truly proportioned and properly executed. The risk of explosion of the boiler is the only *new* cause of danger, and that I consider not equivalent to the danger from horses."

This, the *only* objection, our readers are aware is now *entirely removed* by Sir James Anderson's boilers.

With this evidence given before the House, and in which almost all the other witnesses agree, it is a matter of surprise that so much prejudice has continued to exist against a mode of conveyance fraught with so many advantages to the public. We shall feel gratified if we have assisted to dispel an error attended with so much injury to the country at large, for in proportion to the prejudice that exists against it being undertaken are the difficulties to be overcome in establishing it.

We are convinced that many a great and important good has been lost to this country from a bigotted adherence to "*what is*." Truths shine upon us, and yet, in very wilfulness, we shut our eyes against the light. In the invention we now allude to, however, we are happy to state that the country *will* participate, preparations being now making to establish carriages and waggons for the conveyance of passengers and goods over the entire of England, and we feel justly proud in being the first to announce the successful issue of so important an object.—Mark Lane Express.

EAST CUMBERLAND AGRICULTURAL SOCIETY.

The show of stallions for the premiums given by the Carlisle district of the East Cumberland Agricultural Society, took place on Saturday, the 21st April, in the outer green of Carlisle castle. The judges were Mr. Seymour Deighton, of Winston, near Darlington, and Mr. Fryer of Catterick bridge; and their decisions gave very general satisfaction. The show altogether was a good one; the class of coaching horses was the most deficient. There were four entered for the premium for that class, and only three appeared upon the ground. The show of blood stallions was good, but that of cart stallions was of a very superior description. There was a sweepstakes for thorough bred yearlings, *bona fide* the property of gentlemen of the county of Cumberland, which excited a good deal of interest. There were ten entries, and eight made their appearance, all very promising, and many of them were much admired. There was also a match for five guineas a side, between Mr. Bird's young short-horned bull, of Catterlen, and Mr. George Blaylock's of Burgh, bred by Mr. Ben. of Lowther: it was decided in favour of Mr. Bird's. For the premium of eight sovereigns for the best blood stallion, there were six entries and all appeared, 1st. "Wiganthorpe," the property of Richard Ferguson, Esq. Hacker Lodge; 2nd. "Benledi," belonging to Messrs. Weir Waverton. Eight sovereigns for the best coaching stallion, Mr. Moffat's "Restitution," first; Mr. Bramley's "Prime Minister" second. Eight sovereigns for the best cart stallion. There were eight entries, and all made their appearance. Mr. William Miller's horse "Bay Wallace" first, and Mr. Charles Phillips' horse "Lofty" second. For the sweepstakes, Mr. Thomlinson's colt, by Equator, first; Mr. John Ramshay's colt, by Liverpool, second; Mr. George Holmes' colt, by Satan, third; and Mr. Dixon's colt, by Liverpool, fourth.

After the exhibition was over, several gentlemen, friends of the society, dined together at the Crown and Mitre inn, Richard Ferguson Esq. of Harker Lodge, in the chair, and H. Farrar Esq. of Scaleby Hall, in the vice chair. After the usual routine of toasts the award was read, and the chairman gave the unsuccessful candidates. He then gave the successful candidates, and coupled the toast with the name of Mr. Thomlinson, of Cardew; Mr. Thomlinson returned thanks, and said that he was almost a stranger among them, and knew little of farming, but he was very fond of it, particularly that branch connected with the breeding of horses. The breed of horses in Cumberland was very deficient a few years ago, but it had been much improved lately, and with the assistance of a few spirited individuals like Mr. Ferguson and Mr. Ramshay, he had no doubt but that in the course of a few years it would rank among the first counties in England in that respect. For his part he would be glad to do all in his power to promote so desirable an object, and he hoped they would have many such meetings as the present. The healths of the judges was next drank. They both returned thanks; and Mr. Deighton said that they experienced considerable difficulty in deciding, particularly in the yearlings, and they might possibly have passed over some, which one day may win the "Oaks," the "Derby," or the "St. Leger;" but, they had acted to the best of their judgment; and if they had erred, their heads and not their hearts were to blame. The show of horses had been good. The show of coaching stallions was the worst; but the cart stallions were the very best he had ever seen at any

agricultural exhibition he had been at. Where he came from, and in any part of Yorkshire they had nothing to compare with them—nothing that deserved the name of cart stallions when set beside those he had seen that day.

The health of the chairman was then drank; who, in returning thanks, said that he was fond of agricultural pursuits. Some years ago he had done all he could to improve the breed of cattle, by bringing good short-horns from a distance. Lately he had paid more attention to the breeding of horses, indeed it had become a kind of hobby. He was determined to spare no expence; if he went to a distance to purchase a good horse, he would not stick at price, for good ones he would have, cost what they might.

"The Press," connected with the names of Mr. Steel, and Mr. Ross, editors of the Carlisle Journal, and Patriot, was drank. Mr. Steel said, that being the elder brother of the broad sheet, he might perhaps be permitted to return thanks first. He knew very little about farming, but he was anxious to do all in his power to promote its interests, and he could not perhaps do so better than by disseminating as widely as possible, information respecting meetings like that which had been held that day. And in doing so he always had kept, and ever would keep it entirely distinct from politics. He would be very happy if he could be the means of promoting the interests of the society, and through it the interests of the agriculture of the county.

Mr. Ross knew nothing about farming, having been all his life in city pent; but he was fond of the fields and mountains, and anxious to promote the interests of agriculture, and in doing so he was promoting the best interests of the country. He approved of meetings like the one which had been held that day, and with his "elder brother of the broad sheet," he would, in his endeavours to promote its interests, keep it entirely free from party politics.

There were several other toasts drank, and the meeting separated, determined to use their utmost exertions to promote the objects of the society.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—From the many reports which have been returned to you, and from the accounts I have received from friends in different parts of the country, I believe that there can be no doubt but that the growing crops of wheat are generally most unpromising, and that many have been so injured by the long and severe frost, that they have been ploughed up. My growing wheat is after clover, mangel wurzel, and Swedish turnips. The sowing on a one year's clover ley, was in the beginning of October, after the mangel, the beginning of November, but after the turnips, not till the frost broke up; had not the seed been brined the day before the frost set in, I should not have sowed wheat so late as March. Finer crops than I have after the clover, and particularly after mangel, from the seed having been put in the deepest, cannot be seen; and, as the turnip land is in good heart, I have little doubt but will prove a good late crop. The growing wheat around me is most of it very thin of plant. Various are the reasons assigned for the frost having this year so injured the grain, which has ever been considered hardy enough to contend against the most inclement season. It is said by some that the injury has arisen from sowing new varieties which are not hardy.

This I do not assent to, for two of my three sowings are new varieties of white wheat, the Amersham, and what I call the Snow Drop, the produce of one bushel given to me in 1836, very highly spoken of in Norfolk, and from what I grew, I think most deservedly so; the late sown was the Golden Drop. All my wheat was drilled in four inches deep; had others put in the same depth, I feel assured that there would not now have been so many defective crops; and I will state one circumstance that may induce others to be of my opinion. At the end of one of the bouts of the machine, the guider of it discovered that he had gone many yards with so little corn in it, that some of the pipes had not sown; where they had not, drills were made with a hoe, and seed was put in, but from its not being put in above half the depth of the other, the grain which came up has disappeared.

Many are fearful from present appearances, that there may be at harvest, not more than one half of an average crop. I well remember that in May, about eight and twenty years ago, all the growing wheat looked so miserably bad, that the most fearful apprehensions were entertained. The weather in June and July being warm, with frequent showers, there was at harvest a full average crop. If the weather should be so this summer, I shall very likely have an abundance of straw, with a short quantity of an inferior quality of grain. I regret having this year omitted my usual practice of eating my wheat crops off early in the spring with sheep, to prevent having a superabundance of straw. Hoping you may think this communication worthy of insertion in your paper, I remain,

Your's &c.
C. HILLYARD.

Thorpelands, near Northampton, May 1, 1838.

Before drilling came into practice all wheat sown after summer fallowing was ploughed in. There is now no summer fallowing near me. I should like to know how the crops have escaped where the seed was ploughed in. Although I am an advocate for deep drilling in seed wheat, I am not for barley. This is my first day of sowing, mangel wurzel being rather later than usual, and my land in not the usual good order, from not having been able to plough it before the frost set in, and from little of my own seed coming to perfection, and thus having to buy seed from a stock I know nothing of, I expect to be beat by my noble competitor and others, in our county sweepstakes, but I trust I shall not be in the rear in the Swede's and carrot's stakes.

THE HOP DUTY.

We some time ago pointed out the great hardships under which the hop-growers of this kingdom were labouring, owing to the exceedingly low and ruinous prices of hops, and the great amount of duty which they were paying, and recommended them that they should strive together to obtain some relief, by endeavouring to get the war duty upon that article repealed. Our suggestions have been attended to, and a memorial to the Lords of the Treasury, as also petitions to both Houses of Parliament, have been agreed upon, and, as will be seen below, most numerous and respectably signed; so much so, indeed, that nearly every hop-grower in the North Clay district has attested his grievance, and pointed out a mode of relief, by affixing his signature. This

effort is simultaneous with that of the hop-growers in the South, who are bestirring themselves on the same subject. We most heartily wish them all the success which they can desire, and which we are quite sure they deserve. The following is the memorial alluded to:—

TO THE RIGHT HONOURABLE THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY.

My Lords,—The undersigned memorialists being hop-growers, resident in the North Clays, and in other districts, in the county of Nottingham, beg leave most respectfully to represent to your lordships the hardship under which they are now labouring, with respect to the amount of hop duty charged upon their produce, together with the ill effects it is calculated to produce, and of pointing out the only way in which their interests can be promoted by parliament, so as to induce your memorialists to continue to grow, what of late years has been anything but a source of fair and reasonable remuneration.

In the first place the new, or as it is sometimes called, the war duty, was imposed in the year 1802; and, your memorialists beg leave to call your lordships' most particular attention to the fact, that for that and the six preceding years the aggregate amount of old duty paid, amounted only to 691,610*l.*; whereas, in the year 1837, and the six years previous thereto, the same duty paid was 1,274,917*l.*; which, allowing for the increase of consumption, places the grower, during the latter period, in a worse situation by thirty-five per cent. than he was during that of the former. Besides, the average price of hops from 1796 to 1802 was about 12*l.* 10*s.* per cwt., whereas, from 1830 to 1837 the average price was not more than 6*l.* 6*s.* per cwt., thus proving incontestibly that their present situation, in every respect, is far worse than it was, and, therefore, highly deserving the serious attention of the government and the legislature, in order that such relief may be afforded them, as it is proved they now stand so much in need of.

From these plain statements, which are founded on the annual returns laid before parliament, and other authentic sources, it is evident, that whilst the war duty upon different descriptions of home produce has been materially reduced or altogether abolished, this tax has remained stationary (with the exception of the year 1822, when the war duty was remitted by the then government); and of late years, owing to the extreme lowness of prices, its consequences have been most serious to the grower of this useful and almost indispensable article. It has, however, not only been detrimental to the grower, but as the production of hops gives more useful employment to the poor, than any other agricultural pursuit in those districts where they are cultivated, this extra tax has been highly injurious to the labourer, and to others engaged in picking, drying, and curing this article of almost general consumption. It is, therefore, evident that without some alteration takes place in the amount of duty to be hereafter paid, a very considerable breadth of land, now appropriated to the cultivation of this plant, must be applied to other and more profitable uses, by which the revenue must be seriously and permanently diminished, and the condition of the labourers engaged in its cultivation materially affected for the worse.

Your memorialists also beg to represent to your lordships that the duty on hops should be paid by instalments, at different periods than at present,—namely, in May and November, instead of in April and September, for the produce of the preceding year. Payment of the last instalment should not be fixed earlier than November, as dealers might otherwise take advantage of the needy growers, by making bargains at reduced prices, which would tend to depress the market, and that at a period when the great bulk of the produce would inevitably have to be offered.

Your memorialists, therefore, most humbly beg to represent to your lordships, the great utility of repealing the war duty upon this article of their production to the amount of 7*s.* 11*d.* 16-20*ths* per cwt., whereby the general duty will be lowered to 10*s.* 8*d.* 4-20*ths.*—

a decrease which would enhance the value of their commodity (although it will not altogether meet the urgency of their case), and, thereby, to a certain extent, deter them from otherwise appropriating their land, which has already been the source of so much trouble and expense in its annual cultivation.

My Lords, your memorialists have thus plainly, and, they trust, intelligibly, stated their grievances to your lordships, as well as the means by which (in their opinion) such grievances may be redressed, and they fervently hope that your lordships will take their case into serious consideration, for the purpose of affording them some substantial relief, for which, as in duty bound, your memorialists will ever pray.—*Doncaster Gazette*.

THE RATING OF TENEMENT'S BILL. THE PAYMENT OF RATES BILL.

The above bills relate to the same subject. The first proposes to change the law; the second to modify it. By the general law the occupier is liable to the rates: he may make what terms he pleases with his landlord with respect to the ultimate payment; but the tax gatherer calls upon him for the payment in the first instance, and in default of payment seizes the goods on the premises. But there are special provisions of the law by which the occupiers of small tenements are sometimes wholly relieved from the payment of rates, and sometimes so relieved when they are unable, through poverty to pay them. Entire relief has been given in local acts only. The partial relief last mentioned has been given in a former poor-law.

The object of the *Payment of Rates Bill* is to modify the law in the last respect, and of the *Rating of Tenement's Bill* to throw the burden directly on the landlord, as the general rule, instead of the occasional one.

The modifications introduced in the *Payment of Rates' Bill* are these:—Two justices are now allowed, on the application of the poor rate-payer, with the consent of churchwardens or other persons having the management of the poor, to relieve such poor rate-payer, from the subsisting rates and all future rates. By the proposed law two justices are still to exercise that power, but either on the application of persons having the management of the poor, or on the application of the poor rate-payer; but if the application be made by the persons having the management of the poor, the consent of the poor rate-payer must be obtained before he can be relieved of those rates which give him either a parliamentary or a municipal franchise; and if the application be made by the poor rate-payer himself, he must give previous notice to the persons having the management of the poor.

The main purpose, as we gather, is to give the justices absolute jurisdiction, without the concurrence of the persons having the management of the poor, or of the poor rate-payer himself, subject, however, to the restrictions above named, protective of franchises in the one case, and protective of the general interests of rate-payers in the other.

The other bill at once makes the landlord liable for tenements of a certain class; but sends the tax-collector at first to the occupier, who, if he pays, may deduct from his landlord. There is a similar restriction in this bill protective of the franchises of occupiers, who may if they please, require to be rated.

The bill is to be optional in some particulars. It is to take effect at once with regard to all places not united under the Poor-law Act. But with regard to places in union, it is to be subject to the determination of the guardians, both as to the extent of its application to the different places, and as to the duration of such application.

Some very intricate questions are involved in this matter. To give general relief in favour of all tene-

ments (which is often in fact, the practice, though not the law) occupied by poor persons has a twofold mischief. It gives to the landlords of those tenements additional rent, at the expense of the rate-payers, who pay; and it operates by way of out-door relief to poor persons. Where the relief is partial and occasional, and unexpected, it has the last operation only.

If the rates fall on the occupier, it seems desirable that he should bear his share of the public burdens, especially those incurred in the relief of the poor. A man is but half a citizen, and but an ill-conditioned one, who does not contribute to the common burdens. His privilege takes away his sympathy for others. If the poor contributed their proportion to poor-rates, we should have as powerful, perhaps a more powerful check upon pauperism than the privations of the workhouse.

By the operation of Mr. Poulett Scrope's Parochial Assessment Bill this effect may be produced at least in some degree. All the property in the kingdom being assessed at a uniform rate, the rates will become less a burden on the landlord, and more a burden on the tenant—that is, if the landlords build no more houses than enough.

But the ease of the collector is the matter looked after—his exemption from the black looks and cross words of a whole row of vexed wives, young and old,—and, therefore, it is proposed by some that the landlord, who will be the richer man, and also the owner of several tenements, should pay instead of the occupier.

But is there no other way of meeting the case? If the rates are not paid, why should not the provision of the poor-law for the recovery of relief be applied here also, and the master be compelled to pay it out of the wages of the workman?

It will be far better for the interests of the poor that they should bear these burdens. They alone have the moral influence by which they can protect one another from falling into habits of pauperism. If, however, it happen that anybody requires to be relieved, the amount remitted might be considered as a loan to the occupier, to be re-paid, as relief given under the poor-laws.

It is to be hoped that this matter will not be rashly legislated upon.

Of the workmanship of these bills we are unable to speak in terms of praise. It is too bad that laws like these, which are expressly intended for the most illiterate class of persons, should be written in a manner difficult to be understood even by the literate. We are confident that neither Sir Harry Verney nor Mr. Pryme could write a common letter so confusedly as these bills are written, and we dare say that in the course of their labours they have written several, in explanation of their objects, which were better than the bills. We do most humbly suggest, as a rule that the house should direct the clerk, or, better still, the member who moves a bill to read it aloud in an audible voice to the assembled body. There are few men of nerve enough to stand by the nonsense which they are made to propound at present as the wisdom of the Legislature. On all sides cries would arise of "Hear, hear!" "What's that?" and similar phrases of exclamation and inquiry, until the harried mover, perplexed and discomfited, would throw down his bill (as barristers do sometimes their briefs in a hopeless cause), and shrink down in his seat to shun observation. And better it should be so than that, so recklessly as at present, the general law should be set at nought, judges and lawyers should be perplexed, and the public should be oppressed with litigation and the costs thereof. We do not mean to say that these bills are much worse than others which are put into the hands of members, it would be difficult to give unqualified praise to any, still more, to pronounce upon their relative merits and defects, for these so equally abound in all; the merits to be found in some being joined with the defects avoided in others, and unfortunately both merits and defects being blindly copied without inquiry on the part of the mover, or check on the part of the house. It has been the practice to call some bills by the name of the author. We recommend that the bill itself should, *ipsisimis verbis*, be the author's epitaph—if it were but to say, so good a purpose did the deceased execute in so bad a way.

THE LATE SMITHFIELD SHOW.

TO THE EDITOR OF THE MARK LANE EXPRESS.

London, May 1.

SIR,—Your letter in the *Mark-lane Express* of 23rd April requires to be noticed by me.

I did not send a copy of my letter to *Bell's Weekly Messenger*, neither did I directly, or indirectly, pay for its insertion, as an advertisement, nor have I seen any notice respecting it from the Editor of that paper; all I can conclude from the fact of its having appeared, is that some member to whom a copy was sent, thought that it contained an important statement, and accordingly gave it greater publicity—to that member, and to yourself also, I am indebted for an increased notoriety.

To Mr. Franklin I shall apologise for having unwittingly implicated him in this ill-timed visit, nevertheless, supposing that the invitation was given to, and accepted by Mr. Jellicoe previous to his appointment as one of the judges, still it would have shown a greater sense of propriety on his part, had he paid the visit on his return from London, this visit, coupled with the decision, which you acknowledge to have been so much commented on, was enough to create suspicion of a judge, equitable as you describe Mr. Jellicoe to be.

How many of the neighbouring graziers will give credit to the certificates of the quantity of food consumed by Mr. Senior's animals?

Why does he not allow agriculturists calling on him for that purpose, to see his Herefords preparing for the shew?

“D’ou vient qu’a tout le monde il veut tant la cacher
Et qu’il ne sauroit voir personne en approcher?”

I ask these questions from facts lately made known to me, not as a disappointed candidate, as I sent nothing to the last shew, nor from personal feeling, as I am unacquainted with either Mr. Senior or the judges.

I shall still be dastardly enough to conceal my name, a knowledge of which would render no service to you or to

BUCOLICUS.

Mr. Price, Poole House, Upton-on-Severn, Worcester.

AGRICULTURE.

TO THE EDITOR OF THE READING MERCURY.

SIR,—In your last paper, are two important subjects, viz.:—drilling wheat, and the use of mangel-wurzel. Lord Western speaks of the benefit of his drill, but he uses three bushels of wheat per acre, which is too great an expence: the benefit of the drill, is the saving of seed. If any farmer desires to profit by the drill, he must not put in more than two bushels of wheat per acre, and there must be two men behind, to keep the spouts clear with their paddles; if well looked after, there can be doubt of success.—As to mangel-wurzel, it must be given sparingly to cows, otherwise it will dry up their milk; and no cattle will do well upon it, except they have corn and hay also. Pigs will not thrive except corn is given them. On this subject I speak from long experience, and have noticed that mangel is best after it has been stacked, and had a sweat.

AGRICOLA.

EXPORTATION OF HOPS.

TO THE EDITOR OF THE SUSSEX ADVERTISER.

SIR,—It is not I believe generally known to the hop planters of Kent and Sussex that ever since the commencement of the last hop season government have refused to allow a drawback upon the exportation of hops of a low value. Their argument has been that such hops are not worth the amount of the drawback claimed, if they were sold to a brewer. There does exist a law 57 Geo. 3d ch. 87, sec. 10, which requires that goods claiming drawback on exportation should at the time of exportation be worth the amount of drawback to a British consumer. A petition was addressed to the Commissioners of Excise on behalf of a planter who had 100 bags of his own growth 1830 unsold, and was taking measures for their exportation, it was admitted in the outset of the petition that the hops were not worth the amount of drawback at this time, but it was urged that it was highly unjust to take advantage of a temporary depression of market value arising from excessive production, for that those hops had an intrinsic value and might have been worth much more than the amount of drawback if the crop had been smaller.

The excise took an equitable view of the subject and ordered an inquiry to be made by their own officers whether the hops had any intrinsic value or not, but strange to say, the report given was that they were utterly valueless and never under any circumstances could acquire a value. The claim for drawback was refused.

A letter was then sent by the grower to the Treasury who referred it to the excise. Fearful they were too liberally disposed the point of law was resorted to. A case was submitted to the law officers of the crown, who gave an opinion that the Commissioners of Excise had not power to grant the drawback under the circumstances so long as that law remained on the statute book.

Application was then made to the treasury to induce them to repeal that law at their convenience, and in the meanwhile to direct the Commissioners of Excise not to enforce it, that application has not been so regular and formal as to allow of the conclusion that the Lords of the Treasury will not repeal it, but they have refused the request originally made for leave to export upon drawback 100 bags of hops growth 1830 now in the hands of the grower.

The law referred to 10 sec. 57 Geo. 3, ch. 87, is at variance with common sense and with justice and sound policy, it does not operate upon any article but hops.

If a grower of hops were to complain to the Chancellor of the Exchequer that the article is too heavily taxed, his answer would be that a tax is not too heavy so long as it does not diminish the consumption of the article, for that it is the intention by means of the tax to raise a contribution from the consumers and that you the growers are merely an agent of government who require you to pay the contribution in advance; but whenever you choose to withdraw from this compulsory engagement and by exporting your hops to a foreign country to relinquish the power of reimbursing yourself from the public, we will return you the money which as agent we required you to advance, you shall draw back your duty: how inconsistent then is it to turn round upon the exporter of hops and tell him, we find the public refuse to reimburse you, your hops are not worth the amount of drawback in the home market, and therefore we will not now return you what as our agent you paid in advance, but wait until the public are willing to give you a higher price then come to us and we will give you the drawback. Is not this most capricious and absurd to refuse it when it is most wanted, and be willing to give it when it is not wanted.

Would the Chancellor of the Exchequer venture to propose a law which would have no other object than to produce this effect. He would not venture to do so—how then can he refuse to remove this old law which is utterly useless for any beneficial purpose, but which does most distinctly perpetuate injustice.

Should it become necessary to draw the attention of Government to the question more forcibly, a suggestion

will be made for a public meeting of planters in order that they may engage the assistance of those Members of Parliament, who are most intimately connected with the cultivation of Hops.

J. S.

Southwark, April 18.

RUDKIN'S APPARATUS.—REPEAL OF THE MALT-TAX.

It will be in the recollection of our readers, that whilst the merits of Capt. Rudkin's machine, for registering the quantity of spirits distilled, and the repeal of the malt tax as a consequence of its adoption by the government, were trumpeted into the ears of the farmers by parties who had an object to serve perfectly unconnected with the interests of the agriculturists, we abstained from noticing the subject, until we were enabled to do so correctly by communications from the fountain head, and even then, although we reported favourably of the working of Capt. Rudkin's machine we did not encourage the delusion that it would lead to a repeal of the malt tax. Those who have taken an interest in this subject will be gratified by the perusal of the subjoined correspondence between Dr. Birkbeck, who superintended the trial of Capt. Rudkin's machine on behalf of the government, and a Mr. Smith, a practical distiller, which will throw very considerable light upon the motives of the parties and the means used by them to practice a new delusion upon the farmers. Every fresh detection and exposure of these schemes will open the eyes of the agriculturists, and will teach them to whom to look for sound advice, and in whom they may safely repose confidence.

NO. 1.—MR. SMITH TO DR. BIRKBECK.

Whitechapel Distillery, London, April 2.

MY DEAR SIR,—My attention has just been called to a newspaper, which I had never before seen or heard of, published under the title of the *Gardeners' Gazette*, and which, in the number issued on the 24th ultimo, gives a report of a meeting of the Central Agricultural Society of Great Britain and Ireland. At that meeting you are stated to have expressed your opinion of the merits of the apparatus recently under the consideration of Government, and invented by Mr. Rudkin, for ascertaining the produce of spirits in distilleries; and as a part of your speech on that occasion, the reporter gives the following passage.—“Mr. Smith, the eminent distiller in Whitechapel, said to him (Dr. Birkbeck), We can afford more than the present allowance to get rid of the trouble and uncertainty we now labour under. With Rudkin's system we shall only be subject to examination at the mouth of the worm, and the two responsible officers who test it put an end to all further trouble.”

Now, Sir, without arrogating to ourselves anything on the score of the eminence which according to this report, you are pleased to assign to Mr. Smith, it is plain that the reference must be to one of our house, there being no other distillers in Whitechapel of that name, I therefore feel interested in knowing whether the words quoted from the newspaper formed part of your address to the Agricultural Society; and if so, shall take the liberty (which, under the circumstances, I am sure you will pardon) of correcting the erroneous impression you seem to entertain as to the light in which Mr. Rudkin's invention is viewed here. My present conviction is, that some great mistake has been committed by the reporter, from his not understanding the subject

of your remarks; or else, that the report has been distorted by other persons, for purposes of their own. This conclusion appears to me the more natural, as I give you credit for a much more competent knowledge of the manufacture of spirits than is indicated by the observations which have been put into your mouth.

I shall feel greatly obliged, then, if you will spare me a few moments of your earliest leisure, to inform me how much of the above statement you adopt, and how much of it I am to ascribe to the fertile imagination of the reporter. My next step will depend upon your answer.

I am, my dear Sir, yours very truly,
To Dr. Birkbeck. GEORGE SMITH.

NO. 2.—DR. BIRKBECK TO MR. SMITH.

MY DEAR SIR,—Like yourself, I am quite ignorant of the *Gardeners' Gazette*, and of the words ascribed to me in it. I neither mentioned nor alluded to any distiller, eminent or otherwise; and of the “allowance” I spoke as a mistake in any other sense than as a certain latitude in calculation with regard to the attenuation. What I said at the Agricultural meeting will be found nearly correctly reported in *Bell's Weekly Messenger*, although, even there, it is not worth your perusal.

Of Mr. Rudkin's machine I have prepared a favourable report to the Chancellor of the Exchequer, and in it I have quoted from the printed documents your father's emphatic words, “We are always in their hands.” They are most descriptive of the odious interference of the Excise officers, and the Excise regulations.

I am ever most faithfully yours,
GEORGE BIRKBECK.

38, Finsbury Square, April 2.
George Smith, Esq.

NO. 3.—MR. SMITH TO DR. BIRKBECK.

Whitechapel Distillery, April 6.

MY DEAR SIR,—I thank you for your prompt answer to my letter of the 2nd. inst., to which it was my wish to have replied sooner. Among other and more important causes of delay, I may mention my desire first to examine the report to which you refer in *Bell's Weekly Messenger*. Having now done so, I agree with you in thinking that it does not repay the trouble of perusal, as it seems to furnish a very inadequate account of your address, presuming that that address conveyed, as the reporter himself says, “a luminous and able description of Capt. Rudkin's invention.” I may add, that as no allusion is there made to any Mr. Smith, or the opinions entertained by him, there is no necessity for any particular remark on my part.

In the case of the *Gardeners' Gazette*, it does not appear to me that I ought to remain equally passive; and therefore, though I am well aware that you, who are very philosophically regardless of the foolish things that may be said of you, or of the misrepresentations to which you may be subject, will think my time misemployed, I shall trouble you with a few remarks, which I trust you will not construe unfavourably.

I have not the vanity to suppose that importance can be attached to any opinion I may give upon a purely scientific subject, when those of men of superior attainments are readily accessible, or where other means of accurate information exist. Of the mechanical construction of Mr. Rudkin's apparatus, therefore, I say nothing; nor of the difficulties which present themselves in the practical solution of the problem which he has proposed to himself. When you say that you have made a favourable report to the Chancellor of the Exchequer, I presume that you have limited yourself to this point. I conceive (though I may be mistaken) that the business you had in hand from the Government, in presiding over the operations in Brown's-lane, was to judge and report whether the machinery on trial was adapted to the end proposed—namely, the measurement and registration of the bulk, temperature, and specific gravity of a running stream, which might vary from time to time in all these respects, and particularly in the last, ranging from water to the strength of spirits of wine.

Here, as a question of science, the matter ends. It must be the province of other men, and of men qualified in a very different manner, to pronounce whether, admitting these objects to be successfully accomplished, the collection of the revenue may be safely intrusted to this "dumb exciseman" (as the machine has been quaintly denominated,) or, that point granted, whether there may not be certain views of expediency which oppose its introduction.

It is at this point, Sir, that I feel myself in some measure entitled to enter upon the field as one of a body who may fairly claim a voice in a question materially affecting their interests, and having, besides, a personal motive for interference, arising out of the use that has been made of the name I bear. It is clear, from your statement, that the reference in speech to Mr. Smith is an interpolation, and as it cannot be supposed that that corruption of the report was perpetrated without an object, we may fairly infer that object to have been the vanquishing of all scruples as to the introduction of Mr. Rudkin's contrivance into distilleries, by the production of this supposed evidence, that the distillers themselves are desirous of adopting it. It requires, indeed, no great depth of reflection to discover that among the agricultural classes, for whose instruction, in conjunction with the horticulturalists, the *Gardeners' Gazette* seems especially intended, many will be found, having access to no information on this subject but such as Mr. Rudkin or his friends lay before them, who, in riding this their particular hobby—the repeal of the malt-tax—will consider it a circumstance in their favour to have Mr. Smith as the companion of their canter; or, to speak perhaps with greater propriety, will mount with peculiar pleasure and a more perfect feeling of security when they find that he intends to hold their stirrup. Now, Sir, I cannot help thinking that when Mr. Smith does this, he will incur nearly the same risk as those who performed that office for the Sultan (one of the Amuraths, if my memory serves me), of whom it is related, that his dexterity was habitually displayed by vaulting on his horse, at the same time drawing his scimitar, and decapitating the attendant groom. In plain language, Sir, there exists a proneness, which in most cases seems reasonable enough, to rely on the opinions of such as are termed "practical men." This propensity is no where more likely to prevail than among that class of persons (the farmers) whom it is now attempted to stir up in aid of Mr. Rudkin; for they, of all men, until of late years, and perhaps even at this day, are said to have been more generally guided by experience than by theoretical views; and there is, therefore, no class with whom an appeal founded on such a basis would be more effectual. In reference to the distillery and the revenue arising from it, the term "practical men" comprehends, of course, those among the distillers who take an active share in the management of their business (of which description I avow myself one), and the executive officers of excise. Of the latter, the opinions in few instances are known beyond the precincts of the office; and as to the distillers, I have no authority, and am very far from having the disposition to stand forward as their organ. Hence, considering it has at least doubtful what might be the effect upon the distillery of the proposed measure, or of the means by which it is to be carried out, and desirous that the interests of our trade may not be compromised by any step of mine, I cannot but regard it as highly inconvenient, that an opinion should be imputed to me which, most assuredly, I never entertained, and which, it is equally certain, was never expressed either by myself or any one connected with me.

I dare say it will be in your recollection that late in last Autumn I had the pleasure of meeting you in St. John-street, and then expressed the annoyance I felt at the absurd light in which the name of Smith had been exhibited in connexion with this question. I also stated my belief that the publications on which I then commented proceeded from Mr. Rudkin himself, and read a letter which I had addressed to you, and which I happened to have with me, conveying the same sentiments, but which, having had that opportunity of a personal explanation, I did not forward. You were

kind enough to inform me, that my impression was erroneous; and that the newspaper paragraphs and broadside circulars of which I complained were drawn up and published by Mr. Cort, who, you freely admitted, knew nothing of the subject he undertook to handle. As the conversation of that day is, to the best of my recollection, the only one I have had the pleasure of holding with you on the subject of Mr. Rudkin's machine, and as the opinions I then expressed are those which I still entertain, and which, so far as they are applicable to the present state of the question, I see no reason to alter, I now append the letter referred to, that if I am, against my inclination, to be dragged forward as an authority, there may at least be no doubt as to the side to which my judgment would incline. It must, however, be subject to this correction—that the censure I have there passed upon Mr. Rudkin's conduct must, upon the strength of your information, and for the sake of "putting the saddle on the right horse," be transferred in full measure to Mr. Cort, who has entitled himself to an additional allowance of the same commodity, if to his official zeal we are to ascribe the impudent fabrication of your conversation with Mr. Smith.

But while justly objecting to garbled or fabricated evidence, I can have no pretext for quarrelling with a fair quotation from authentic documents. With anything of the former sort, I freely admit, I have no ground for connecting your name; though, even in pursuing the latter course, I must be permitted to remark that you have in some degree mistaken the scope of my father's evidence. The words undoubtedly stand in the report of the Committee on Molasses as you have given them; but they were not in his mouth the language of complaint. Their object was to show to the committee that if the officers duly followed the instructions prepared for their guidance, such was the regularity and constancy of the survey in the licensed distilleries, that any violation of the law was impossible; and to impress upon them the necessity of extreme caution in making any change, such as that then under consideration, by which the efficiency of the survey might probably be impaired. It is beyond a doubt the interest of the distiller that the whole duty on spirits should be fairly collected. This it has hitherto been attempted to accomplish by the vigilance of responsible agents. It is at the same time true that the constant presence of the officers, and the necessity imposed upon the distiller of following certain prescribed course of proceeding, do in some degree operate as a bar to the introduction of improvements, or even to the carrying on of desirable experiments. To reconcile these two objects—to allow to the trader the utmost possible liberty, without diminishing the security of the revenue, is a task which, although constantly aimed at, has not yet been accomplished; and it is one in which considering the large proportion of the public income at stake, rash experiment is inadmissible. This much, probably, has been said on more occasions than one; but I surely need not point out to you that the expression of this feeling is widely different from an assertion that the desired end may be attained by any combination of machinery, and still more so from an approval of Mr. Rudkin's, as being the best adapted to the purpose. It is plausible to state, that where fraud exists on the part of the trader, or corruption on the part of the officer, both may be prevented by the use of a machine inaccessible to bribery; but it should not be forgotten that any machine may be made to speak a language, not its own, but his whose business it is to interpret it. I profess myself too little acquainted with the details of this mechanism of Mr. Rudkin's to say whether any falsification of its register is absolutely impossible; but I can hardly conceive any combination of inert materials which must not yield to the exertions of intellect strenuously devoted to defeat their operation; nor, if it be desired to have any concurrent check, do I see how that is to be obtained unless by a knowledge of the early stages in the distiller's process. Should the doubts now suggested have any reasonable foundation, the supposed advantages of Mr. Rudkin's apparatus are at an end.

The value of Mr. Rudkin's invention, however, taken simply as a means of ascertaining the quantity and

strength of spirits, forms but an unimportant part of the question now under consideration. It may, perhaps, if no impediment be thrown in the way of its action, correctly perform what is required; and if so—if it be demonstrated that it satisfactorily effects its purpose, and is free from all objection on other grounds, it may be conceded that its introduction into distilleries, with a view of securing the amount of duty at present levied upon spirits, if not attended with any material benefit, might inflict no injury beyond the expense (which is something) of erecting and maintaining it in repair. The pith and marrow of the question lie in the delusion which has been attempted by representing to the public that this contrivance is the best, or perhaps the only one through which they are to enjoy the luxury of "double X" at the price of small beer; and to the farmers in particular, that from the moment of its adoption they are to gather gold from their furrows. This nothing can excuse; and I think you, Sir, will not be much surprised at the dislike I entertain to the use of my name, or that of any one related to me, in subserviency to this trick. On this head I have much to say; but I have already detained you much too long, and shall therefore be as brief as possible.

The simple proposal to repeal the malt-tax is one which has no particular interest for the English corn distiller. The remission of the duty would in no material degree affect the price of his spirits; for, although it appears from the report of your speech (in which both the papers above-mentioned concur) that a part of your argument turns upon that point, it can scarcely be necessary for me to remind you that you have in this respect mistaken your ground, inasmuch as the malt employed in the manufacture of spirits for the English market bears but an inconsiderable proportion to the unmalted grain used for that purpose. The only important results from the repeal would be the simplification of the law of intercourse, and, by putting an end to the illicit manufacture of malt, and to the present system of drawback in the preparation of malt whisky (which applies principally to Scotland), the abolition of the unfair advantages which are said to be thence derived. If the malt tax be, indeed, as represented, an injudicious or oppressive tax, judgment and liberality may be displayed in its repeal; but it rests with the complaining party to show by something approaching to sound argument, first, that it is more objectionable than any other, and secondly, that the alleged advantages will result from the change. The benefits to the agriculturist (should we not rather say the landowner?) are affirmed to be the more extended growth of barley, and the lucrative occupation of light lands. These are but two modes of expressing the same thing; and both may mean that he who now drinks one quart of ale per diem will henceforth consume two. Will that be the case? The maltster also is alleged to be particularly interested,—and so he is; but not altogether on account of the advantages to be conferred on him. He will, it is true, get rid of many restrictions, and may get a better price for his malt, for I believe it will be admitted from experience, that when duties are repealed, the consumer of the taxed article does not enjoy the whole benefit. But is there no probability that those who now brew may likewise take a fancy to make their own malt, and leave the maltster to find at his leisure some fresh employment for his capital? The other interests involved are those of the distiller and the Crown; and it is difficult to perceive in what respect the prospects of either are ameliorated by Mr. Rudkin's scheme. The amount of duty arising from malt in the year 1836 may be stated in round numbers at 4,500,000*l.* I have not yet seen the account for 1837, but there is no doubt that it will be at least as much. This is the amount which, to gratify the farmers, is to be given up. Can it be spared? The very men who demand the repeal of this duty seem to admit that it cannot; and no one will in this instance dispute the accuracy of their decision. But with a degree of generosity not usual in those who clamour for a remission of taxation, they take the Chancellor of the Exchequer under their especial protection, and point out to him in what manner the deficiency is to be supplied. Mr. Cort, the Cornphæus of the Rudkinites, ex-

claims in triumph—"Apply the spirit-meter, and your job is done." Now, how is it expected that this is to be accomplished? By what species of arithmetic is it to be shown that the British spirits annually consumed will yield, in addition to the present amount of duty, a sum of four millions and a half? Let us see.

The anticipated increase of revenue must arise either from an increased consumption of spirits; or, 2ndly, from an increase of the rate of duty per gallon; or, 3dly, from a more accurate collection of that now imposed; or, 4thly, from a reduction in the cost of collection; or, 5thly, from some union of these methods.

It is sufficiently ascertained by past experience, that no magic is so potent in drawing a large amount of revenue from the distillery as due care in regulating the rate per gallon; and the effect seems to be produced not so much by an actual enlargement or contraction of the consumption, as by depriving the smuggler of "the means whereby he lives;" by throwing the supply of the market into the hands of the licensed trader, and thereby bringing, if not the whole, a greatly increased proportion of the trade under the cognizance of the Excise. It is not denied that a diminution of price, from whatever cause, may occasion an increase of consumption; though even in this respect, spirits may be said to form an exception to the general rule, the quantity consumed depending probably as much upon individual habit and inclination as upon the money it may cost. At all events, it has been already shown that the price will not be so materially reduced by the diminished cost of malt as to occasion, without other concurring causes, any considerable increase in the demand. The contrary will more probably be the result; for unless the farmers expect to have their "bread buttered on both sides," it seems natural to conclude that the immediate consequence of the repeal of the malt duty will be such a reduction in the price of beer as will tend to give it a decided preponderance over spirits as an article of general consumption: and thus the additional quantity of barley taken off by the brewers will be counterbalanced by the diminished demand for distillery purposes.

The expectations springing from this source, then, being, as I think, destined to disappointment, it remains to inquire what hopes may be derived from an increase in the rate of duty, or an improved mode of collection. The amount of duty paid on British spirits for home consumption in the year 1836 was nearly 5,500,000*l.*, which we may, without any great risk of error, assume to be the produce of the same branch of the revenue for 1837. Mr. Cort, in the first place, (as appears from his published letter, of which, I observe, the popularity was so great as to demand a "second edition,") presumes upon an increase of 25 per cent. upon this amount, which he has discovered, or assumes, that the Government is now goodnatured enough to present to the distillers for their benefit. Probably from having been misled by this sapient secretary, you appear, Sir, (though you have now endeavoured to rectify the error), to have fallen at first into the same mistake. A simple reference to the 6th of George IV., cap. 80, will satisfy any one who is desirous of informing himself upon the subject, that there is really no allowance at all: and thus about a million and a quarter melts away from the golden vision of the "too happy" farmers. The next source of increased revenue is, that "Mr. Rudkin's apparatus records with the greatest nicety every drop of spirit as it comes into existence:" from which passage I learn that Mr. Cort supposes the spirit not to be in existence till it reaches the tail of the worm, an error of which I recommend him to divest himself as quickly as possible, and which Professor Brande may probably correct, by addressing him in the well-known language of Abernethy—"Read my book." To what extent the Treasury is to be enriched by this almost prophetic power of the meter, Mr. Cort does not condescend to inform us; but it is here, probably, that we are to catch those slippery pounds sterling (no less than 1,686,412 in number, "one-third of the whole gross revenue!") now "annually lost by fraud and evasion." It is hardly possible to be serious in dealing with assertions of this character. Mr. Rudkin, indeed, assures us that he has

official authority for this fact, but he does not point out where it is recorded; and having no recollection of any thing so startling in any report that has come under my notice, I cannot, when I look to the crude nature of his own statements, and the strange manner in which he misconstrues in his haste the language of others, avoid the conclusion that here also he has overshot his mark. In a similar light may be regarded his mention of two millions annually lost in Ireland alone from illicit distillation. Mr. Rudkin next proves to his own satisfaction, by perverting a statement of Mr. Gutteridge, that the distiller ought to pay 2 per cent. more (amounting to 110,000*l.*) on the air which his spirits contain. The distiller having thus to pay about 2*d.* per gallon more upon his spirits, must borrow the lantern of Diogenes, till he finds a rectifier honest or simple enough to purchase air of him at the price of spirits. I am aware that here Mr. Rudkin may tell me that he means no such thing; that the additional 2 per cent is saved to the distiller, who therefore pays duty not upon an imaginary quantity, but actually gets an equivalent in an increased bulk of a vendible article. If Mr. Rudkin means that his apparatus will prevent evaporation in vessels to which it is not applied, he has discovered an art of which I may venture to say no one has dreamed since the days of Sir Kenelm Digby; and, even if that were possible, the gain hence derived, upon the supposition that there is no market for a surplus quantity, affects the farmer in an inverse ratio, by calling upon him for 2 per cent. less of his barley. If, on the other hand, the spirit, after being duly registered, loses the extra bulk and strength, the loss falls upon the distiller, who will then hardly agree with Mr. Rudkin in thinking that his machine "is just what it ought to be, actually in favour of the Crown." He will be more ready to compare himself with the tradesman in the Eastern story, who having received payment, as he thought, in hard sequins, afterwards found his wealth to consist only of clipped leaves. Mr. Rudkin next attacks Mr. Hetherington, and, with a perspicacity rivalled only by that of Mr. Cort, confounds the observations which apply to rolling casks with those which refer solely to fixed utensils. He then, as usual, flaps his wings, and crows most musically, upon having put the Chancellor of the Exchequer in possession of 2 per cent. more—i. e., of another 100,000*l.*, or so. Lastly, Sir, it is hinted by yourself, though not very distinctly traced out, that there are "other savings fairly deducible from the plan in question." Of these I can form no conception, unless they come under my fourth head of "expense of collection." If it be proposed at once to cashier the numerous officers now employed in collecting the malt and spirit duties, the proposal conveys a monstrous injustice (such as I am sure you never would sanction) to a large and (speaking of them as a body) meritorious class of public servants, whose plans for the support of their families, founded upon their existing salaries, deserve no less consideration than those of more elevated functionaries. It is, besides, known that the same men are employed in other branches of the Excise revenue; and therefore their services could not be so immediately dispensed with. The only result would be, that their salaries would bear a larger proportion to the amount they returned into the Exchequer, and consequently that their labour would be more expensive to the country than at present. But it does not, in fact, appear that Mr. Rudkin is entitled to calculate upon any saving at all in this respect; for I find in the *Gardener's Gazette* that the "proposed system would require not only more men, but men of greater responsibility, and who would therefore be better paid than at present."

On the whole, I think it is clear that Mr. Rudkin trusts not so much to the real merits of his invention as to the party he can raise in its favour: and that by dazzling the eyes of partial and incompetent judges, he expects to be brought within reach of his object by standing on the shoulders of the Agricultural Society. Were we even to admit that all his estimates were capable of thorough realization, he has not supplied anything near the amount of the malt tax. But, so far from that being the case, I have, I think, shown that his notions on most points are purely chimerical. Whatever addition to the

present duty on British spirits can be obtained (whether by increased strictness of survey, by charging with duty spirits of which the distiller can never be fairly said to have possession, or by any other means, unless they be attended by corresponding advantages to the distiller) must operate to enhance their price in the market, and must therefore tend to bring them more nearly to a level with colonial or foreign spirits, which, so far from being subject to the influence of the Rudkinian screw, are daily liberated from bond under the most indulgent regulations as regards bulk and strength. Mr. Rudkin (or Mr. Cort for him) maintains that his invention would put an end to illicit distillation. Let us admit, for argument's sake, that by means of it the entered distiller is bound hand and foot; the illicit trader owes no allegiance to Mr. Rudkin; the "two millions" already mentioned are not evaded in Ireland by men who would use the meter. On the contrary, the additional burden to be imposed upon legal spirit would have the effect of making the trade of the smuggler even more profitable to him than at present. The duty is the only source of his profit. It is a false assumption that "quality or economy" enables him to compete successfully with the licensed distiller. The secrecy essential to his operations, and the consequent rapidity with which they are conducted, are effectual obstacles to his obtaining the best results from his materials; and as those materials, in England at least, from their being most manageable, and most easily disguised, are generally molasses, any transfer of business from the hands of the licensed to those of the unlicensed manufacturer must be injurious to the British farmer. Again, if the spirit-meter is to be merely an addition to the system now in operation, requiring the attendance of officers in greater number, and at higher salaries, it must be admitted that the distiller is as far off as ever from enjoying that undisturbed control of his own premises which Mr. Rudkin is so kindly anxious to confer upon him. We must still await the event of some more successful projector, if we are to be released from the trammels of the "present worthless plan," or left to the "free exercise of our own judgment and skill."

In the foregoing remarks I have not thought it essential to adopt the forms of strict demonstration, or to enter into a very minute citation of official accounts. Were I to go at large into all the points of Mr. Rudkin's numerous papers, instead of a letter I should write a volume. Without troubling you to that extent, I trust I have enabled you to trace the grounds on which I base my doubts as to the utility of this scheme; and to see in what manner I think Mr. Rudkin has deluded others, having very likely first deceived himself.

In conclusion, I have only to express my hope that in thus using your name as a medium of explanation, you will acquit me of all intention to question your motives, or to complain in the slightest degree of your conduct in relation to the experiments or reports you have made on this subject; for, though I think I have no great reason to feel flattered by the treatment I have experienced at the hands of Messrs. Rudkin and Co., I assure you I am fully sensible of your courtesy in the little communication to which it has given rise between us.

As my object would not be gained by allowing this correspondence to remain private, I shall, with your permission, give it publicity by such means as I may consider advisable. I am, my dear Sir, yours faithfully,

To Dr. Birkbeck.

GEORGE SMITH.

APPENDIX.

LETTER FROM MR. SMITH TO DR. BIRKBECK, REFERRED TO IN THE FOREGOING.

Whitechapel Distillery, London, Oct. 11, 1837.

MY DEAR SIR,—I have noticed in the *Morning Post* of this day—and it may possibly have appeared in other papers—a description of the "Government experimental distillery" in Brown's-lane, where, it would seem, you and other men of science are engaged in proving the merits of a certain invention of a Mr. Rudkin. The article in question has so much of the character of the "puff direct," that I can ascribe it to no pen but Mr. Rudkin's

own; and if I were to give an opinion upon the matter, I should say it is such as no man thoroughly acquainted with his subject would have ventured to publish. Of Mr. Rudkin's invention, which I have never seen, and of which my knowledge is consequently derived solely from the published descriptions, I do not wish at present to express any judgment; but of Mr. Rudkin himself, I must observe, that whatever may be his merits as a mechanist, he is obviously utterly unacquainted with the practical operation of the Excise laws, and that, independently of his obtuseness upon that point, he evinces singular want of delicacy in the use he makes of the names of individuals, as well as singular dishonesty in the garbled shape in which he presents their statements. I have no desire to provoke a discussion with Mr. Rudkin upon the subject of his invention. It is to me a matter of perfect indifference whether Government commit the absurdity (for such I consider it) of adopting it or not; though it must, at any rate, be obvious that in order to render that desirable Mr. Rudkin must do more than amuse himself by experimenting upon the credulity of agricultural associations. But since he now uses the freedom of identifying your name with every thing he issues in the way of puff, I avail myself of that circumstance, and the friendship with which you have honoured me, to mention that I cannot submit to have this house gibbeted by the course hands of Mr. Rudkin in the manner he takes the liberty of doing, when he, in perfect ignorance of the bearing of the evidence of "Mr. Smith, of Whitechapel" (meaning my father), and of the facts it is intended to elucidate, chooses to sneer at the conscientiousness of a distiller who pays duty on spirits "which have escaped the calculations of the Excise." I am, my dear Sir, yours very truly,

To Dr. Birkbeck.

GEORGE SMITH.

ON THE COMPARATIVE VALUE OF POTATOES AND MANGEL WURZEL FOR CATTLE-FEEDING.

BY MR. EDWARD CARROLL,

Agricultural Steward to Sir George Goold, Bart., Old Court, County of Cork.

(FROM THE IRISH FARMER'S MAGAZINE.)

GENTLEMEN,—It may be in the recollection of some of your readers, that I some time back gave you to understand that doubts existed in the minds of many practical men, relative to the comparative value of potatoes and mangel wurzel for cattle-feeding. I confess I have been, and am still, in favour of the latter, notwithstanding that I have heard many give opinions decidedly against them—some of which I am tempted to give you at length.

I have been assured by one gentleman, whose opinions deserve much respect, from the circumstance of his being for many years an extensive cultivator of, and feeder with both, that in consequence of the failure in the crops of mangel during the year 1836, together with his believing them, compared weight for weight with potatoes, only equal in point of nutrition to two-thirds of the latter, he had determined on giving up the culture of them. His land is what can justly be termed a rich wheat soil; and though in some cases requiring much labour to prepare it for such a crop as mangel wurzel, I have been able, as I conceived, to convince him of the profits of the latter, by referring him to a similar soil, the same year, that, with nearly the same expense in culture, produced forty-five tons of mangel wurzel, beside a crop of potatoes of twenty tons per acre—the latter by no means an inferior, but rather a

superior one. Thus, allowing his hypothesis to be correct, twenty tons of potatoes would be equal to thirty tons of mangel,—*ergo*, thirty tons of potatoes would be only equal to forty-five tons of mangel, being an increase of fifty per cent. His next objection was to the lateness of the season. He would, to obtain the greatest profit from the mangel, by leafing, &c., be obliged to defer his wheat-sowing. I suggested his pulling the entire of his leaves at what he called a premature season; and in default of having a sufficient stock of horned cattle to consume them, he could profitably use them with pigs; or in default of his being a pig farmer, he could, sooner than risk his wheat-sowing, put the leaves in the manure-heap, assuring him, that by mixing them with any rubbish or litter, earth, sand, or other absorbent matter, he could procure a profitable return in the shape of manure. His reasons against them then were, the great expenses attendant on them over those on potatoes, and the requiring a great number of hands employed. I again reminded him of the fifty, instead of the "five per cents.," and as this will meet his eye, beg to remind him of how he can evade the burden of a poor law by employing men profitably, and enabling them to support themselves, instead of being obliged to support them in work-houses *idle*, to the no small injury of every portion of the community, either directly or indirectly.

I have been told by another gentleman, to whose exertions the advancement of agriculture in the south is much indebted, that he had given over growing mangel wurzel, believing his land, though in most parts a rich but light calcareous soil, too poor to grow them profitably. It was to me, I assure you, a source of regret, to find gentlemen opposed to the culture of this, in my opinion, exceedingly valuable plant, knowing as I well do how much the public are likely to be influenced by the advice and example of such excellent men.

It being part of the business for which I was employed, not only to strive to make the most of the land under my immediate superintendence, but to assist others whose opportunities do not admit of their being fully capable of judging on these matters, I determined to make a course of experiments on various matters, amongst which are the subjects of this communication. I have been the more anxious on these matters, finding that one of the most eminent agricultural writers of this age has, if I can trust to my recollection, somewhere in substance said, "A man who is acquainted with the scientific principles of agriculture, as suited to the banks of the Dee or the Tweed, will find no difficulty in applying them with equal success on the banks of the Ohio." Holding the highest respect for the opinions of the learned author alluded to, being none else than Professor Lowe, whose work I could wish in the hands of every one of my countrymen, may I, without being accused of impudent presumption in placing myself in any thing like *juxta-position* with him, say, that my opinion is, that even in our own little "Isle of the West," a practical local knowledge of not only the nature and capabilities of soils and subsoils, but also of the manner in which crops are affected on the same by situation, atmosphere, shelter, or exposure, are not only necessary, but indispensable in an agriculturist; and although the same tests may determine the same component parts in the laboratory, science will be found unavailable, if unaided by practice, in conducting a course of agriculture as suited to various parts on the banks of the Slaney—or others on parts of the banks of the Shannon, the banks of the Liffey, and the banks of the Lee.

But to my more immediate subject. Believing the potato to be what has been aptly termed, the poor man's vegetable, I have endeavoured to procure that which would produce the greatest quantity of nutriment with the least possible expense, and have succeeded pretty well in obtaining, through the kindness of an old friend, Mr. Hurley,* the enlightened gardener at Castleboro', a kind very far superior to any of the coarse kinds generally cultivated for cattle-feeding. The sort he sent me he termed "Russian-head," the only portion of its history he gave me. It consisted of three tubers, weighing respectively $2\frac{1}{2}$, $3\frac{1}{2}$, and 5lbs., making, when combined, 11lbs. These I cut on the last week in April into 28 sets—26 of which I planted in the ordinary mode of drill culture. I dug them on the 26th of October—produce, 15 stones of 14lbs. each. The two other sets, being "rose-ends," I planted in pots, for fear of total failure from the injuries sustained in the carriage of the tubers from Wexford to Dublin, and from thence to Cork. The two plants in pots were left out the latter end of May, and killed down to the surface by a frost that unexpectedly came. However, I had them finally planted out in June, in what is provincially termed "cat-holes," and on digging them out in October, they produced $2\frac{1}{2}$ stones, making altogether $17\frac{1}{2}$ stones of 14 lbs. each—or 22 to 1 produce—or about 20 tons per acre. This produce will appear no way extraordinary to any person accustomed to see 20 to 25 tons of cups, and the same of lumpers (provincially termed horse-potatoes), to an acre; but it will not be so when I state, that subject to the same treatment, side by side, the above neither did one or the other produce more than $13\frac{1}{2}$ to 15 tons per acre, nor was the success of the far-famed "mangel wurzel potato" anything above the cups or lumpers, leaving each something over 35 per cent. short in produce, compared to the "Russian-heads;" nor did the mangel wurzel potato prove itself better than 20 per cent. short in point of farinaceous matter.

Having endeavoured to show the value of the above kinds of potatoes, I shall now proceed to the "mangel." I have been enabled, through the kindness of Mr. Hayeroff, seedsman, Cork (to whom my thanks are due for his readiness to procure for me, even at much personal inconvenience, any new seeds I have from time to time required, and to accompany them with such practical and scientific remarks as are not every day met with from such a quarter), to obtain, in addition to the common mangel wurzel, or marbled beet, three other distinct varieties—or sub-varieties, at least—namely, red, yellow, and white globe mangel; all of which I grew with the common beside the potatoes already noticed, on a soil certainly of a kindly nature, but light, dry, open, and very much exposed to the westerly winds, in a high situation, almost inaccessible with the plough in some parts.

Before giving the results, it may not be amiss to remark, that in green or drill cropping not the least of the advantages derived from such systems is the facility afforded by the superior tilth effected by the hand and horse-hoe. Hoeing and landing mangel wurzel have met many advocates, and some few opponents. To landing them or turnips on any soils I have been always opposed; and to hoeing them, except partially, on some soils, I have been equally opposed. Hoeing, in most cases, is by all admitted

as indispensable; nor will landing, I believe now find many advocates.

From the nature and situation of the soil under consideration, I determined on leaving a portion of the crop of common mangels trusting to a very slight hoeing, and the other portion I hoed in the ordinary way. The globes I hoed regularly all through. The produce of each appeared in round numbers as follows:—

		Tons per acre.
No. 1.	Common mangel wurzel, hoed...	40
2.	do. do. partially hoed	48
3.	Red globe.....	55
4.	Yellow globe.....	60
5.	White globe.....	70

The difference in the produce of the crops of common mangel hoed and partially hoed I attributed, first, to exposing the manure (being by the process brought near the surface) to the influence of the sun, which deprived it in a great measure of its stimulating and other effects on the young plants; secondly, to exposing the plants to be tossed about by high winds, and liable to be twisted about by every subsequent turn of the cutting-plough, scuffer, drill-harrow, or roller, nor were they less affected by every movement of the weeder, hand-hoer, or leaf-collector. These inconveniences the globe mangel wurzel was, from its natural form, much less subject to; they, also, in a very short time, from the more compact form of the head or crown of leaves, covered the surface of the drills, and afforded much greater produce of leaves than the common.

Believing that in plants where a rapid ascent and descent of sap is evident, it has less time to undergo the regular process of elaboration so necessarily exercised on it by the influence of air, light, &c. &c., I had some doubts whether the large or free-growing plants contained, weight for weight, as much saccharine or mucilaginous matter as the more tardy or stunted grown plants, and was induced to test the theory. By the advice and assistance of some scientific friends, whom I now publicly thank, I have been enabled to analyse a portion of each kind of the above. The analysis has not been conducted so minutely as to enable me to give the exact proportions of water, sugar, mucilage, or vegetable fibre, contained in each; but it has been such as to convince me that the lighter or hoed crop of the common sort contained, weight for weight, more saccharine matter than the partially hoed or heavy crop of the same kind, which appeared to possess the same nutritive properties as the red and yellow globe; and that the white, or perhaps, more properly speaking, green globe, contained matter less saccharine, and more vegetable fibre, than any of the others.

As your object is, and, of course, that of each contributor should be, to be as explicit as their means will admit, and lest I have not been able to make myself sufficiently understood in the above, I wish to state the inferences I have been enabled to draw from this experiment. They are—first, that mangel wurzel is a more profitable crop, even on very light soils, and in exposed situations, for cattle feeding, than potatoes: secondly, that the common mangel, on such soils, is more productive if only hoed partially, so as to merely destroy the weeds without reducing too much, but by merely stirring the surface, render it capable of retaining the moisture of the manure, and receive the benefit of showers and dews: thirdly, that the turnip-rooted or globe mangel is more profitable than the common on light soils: and fourthly, that among the globes the white or green is more productive of collective, but less soluble, matter than the red and yellow kinds. The treatment

* Mr. Hurley it was who reported through your pages the greatest produce of potatoes, I believe, on record, grown in Lord Carew's demesne under his inspection, in 1834, I think.

required for one will suit the other, which treatment having been so often described through your pages, supersedes the necessity of my now giving it minutely; but to such as wish for further information I would beg to recommend *The Irish Farmer's Manual*.

For a future number I shall send you a paper on the culture of turnips and rape for sheep-feeding.

I have the honour to be, Gentlemen, your obedient servant,
EDWARD CARROLL.

Old Court, March, 1838.

AN ACCOUNT OF A MOLE OR DRAIN-ING PLOUGH,

LATELY BROUGHT FROM ENGLAND, BY HIS GRACE THE DUKE OF HAMILTON; WITH REMARKS ON FURROW DRAINING.

By WILLIAM AITON, Esq.

To the Editor of the Glasgow Herald.

SIR,—The utility of furrow-draining of land that is of a dense quality, or where the subsoil is retentive of moisture, is now so well understood that it is unnecessary to enlarge on the subject. It has been attested to me by several respectable farmers, that when a clay soil, of medium or inferior quality, has been furrow-drained with tiles or small stones, at the expense of five or six pounds per acre, that expense has been refunded by the first crop of potatoes yielding that sum, above what other parts of the same field produced that had not been drained; and that the land so drained was worth one-fourth part more rent than formerly. The only question therefore is, how can land be most completely drained at least expense? And as some diversity of opinion still prevails on that subject, a description of the plough now at work at Hamilton may perhaps be acceptable to farmers or others who take an interest in such matters.

The plough consists of a strong beam, supported with iron bars on the under side, and which moves in a furrow formed by the ordinary plough, so that the upper side of the beam is level with the surface of the ground; and two stilts or handles are fixed to the hinder end of the beam. The pipe or conduit is formed by a sock that is eighteen inches long, three inches in depth, and two inches and a half in thickness, resembling the fore end of a salmon, cut by the middle. A plate of iron ten inches broad, and nearly an inch in thickness, is fixed in the sock, and the upper end of it is fixed into the beam, at such distance from the sock as may be thought proper, but generally at fifteen or sixteen inches from the sole of the sock to the under side of the beam, so that the bottom of the conduit is about seventeen or eighteen inches below the surface of the land, but can be made more or less by raising or sinking the plate of iron in the beam. The plate on which the sock is fixed operates as a coulter, and forms a slit or open passage from the surface of the ground to the drain or conduit, nearly an inch in width, for the water to sink to the conduit.

The apparatus for moving the plough consists of a strong platform of wood (well supported by iron) six feet long and four feet broad, and placed on four wheels, the two before thirty, and those behind twenty inches in diameter. A barrel or windlass, resembling the capstan in ships, is placed in the

middle of the platform, having its upper axle fixed to a beam of wood about four feet above the platform, and supported by two strong bars of iron. The barrel or capstan is four feet and a half in circumference, and eighteen inches high. This barrel is moved round by means of a shaft or lever twelve feet in length, and placed horizontally on the top of the capstan, and moved round by two horses, and by means of a strong chain it draws up the plough to the platform. The chain is fifty-eight yards in length and eight and a half cwt. in weight. The horses make twenty-two circuits in bringing up the plough to within three yards or so of the platform, and which is generally done in twelve minutes, and it requires three minutes more to move the platform to another station; so that the drain is formed for about 210 or 215 yards in length per hour.

To keep the platform firm in its place, a strong beam of wood, with a prong of iron at the lower end, is attached to the highest part of the hinder side, at each corner of the platform, by a hinge, and pointing diagonally, sinks into the ground; and two anchors of iron are fixed, one to each corner of the fore-end of the platform; and these, pointing into the ground, keep the platform firm in its place. The first round made by the horses does not move the plough, but sinks the points of the anchors and ends of the diagonal beams till the platform is rendered firm, and then the plough advances at the rate of fifty-five yards in twelve minutes, so that three men and two horses can, with this plough, drain an acre of land, when the ridges are fourteen or fifteen feet broad, in the space of seven hours or thereby.

The description thus given of the plough may enable farmers to form some general idea as to its utility and mode of draining land that has yet been discovered; and if the drains formed by it be found to be as complete and lasting as those formed with tiles or stones, at an expense four times greater, no other mode but the plough ought to be followed. But it appears to me that although the pipe or conduit made by the plough may likely remain open for many years, and being about three inches diameter, it may carry off all the superfluous water that falls on the grounds; yet I am afraid that the slit or opening formed by the coulter from the surface of the ground to the pipe or conduit, being less than one inch wide, may collapse, or be filled up, or obstructed so as to prevent the water on the surface of the ground from reaching the conduit, and thereby rendering the drain in a great measure abortive. I do not wish to speak too positively on this subject, and shall be happy to be convinced by experience that my fears are unfounded. Indeed I have often expressed my opinion that even in tile-draining, the earth laid over the tiles might, in the course of a few years, become so solid that the rain water would not find its way to the conduit. And if so, it must be worse where the opening is less than an inch in width. And I know that many farmers, who have formed the same opinion with me on that point, have mixed sand, gravel, coal, culm, &c., with the earth laid over the tiles, in order to secure a vent for the rain-water to the tiles in all time coming. Drainers and others argue that water will filter through the soil to the drain; but in clay soils, I am humbly of opinion that the water may be lodged within a few inches of a drain, and never find its way into the pipe through clay; and that even the clay that has been dug up, and again placed in the earth beyond the reach of the weather, will, in a few years, run together as firmly as before it was dug up. The purpose of furrow-draining land is to carry off, as soon as possible, the water that falls from the clouds, that

it may not sour and chill the soil and banish the rich herbage; and therefore the drains should be formed so as to give the greatest possible facility to the escape of water from the surface of the land. I am happy to find, however, that land drained by the mole-plough, in the county of Suffolk, has more than answered the expectations formed of its utility, even after several years have elapsed; and the drains formed with tiles in the county of Ayr, twelve or fifteen years ago, are still giving great satisfaction.

I understand that in Suffolkshire the land is not only furrow-drained with the mole-plough, but numerous drains are formed with it in a transverse direction across the ridges; and that these cross-drains may be of equal depth with those in the furrows, an ordinary plough-furrow is formed in the direction that the drain is to be carried, and as deep in the crowns of the ridges as to let the mole-plough sink its conduit as deep there as in the furrows. Such cross-draining must be highly useful, particularly where the land has so much declivity in the direction of the ridges that the rain-water would not fall readily into the furrows, but run down the ridges. Indeed the land will never be sufficiently drained, nor the soil properly deepened, till the ground is opened or trenched to the depth of sixteen or eighteen inches. Ploughs have been constructed for trenching land, but I am of opinion it can be far better done with the spade, and even as cheap as with any plough I have ever seen.

It is truly pleasant to see noblemen of the first rank setting examples to their inferiors in an improvement so highly interesting as that of draining land, which bids fair soon to increase human food to such an extent as will bring the Corn Laws, about which so much nonsense has been vented, to die a natural death. We only need to import on an average of years one thirteenth part of the grain we consume; and furrow-draining, and opening the subsoil of the land, would increase grain crops to far more than we now need to import.

WILLIAM AITON.

Hamilton, April 11, 1838.

RALAHINE; OR HUMAN IMPROVEMENT AND HUMAN HAPPINESS.

An intelligent and benevolent Liverpool gentleman, Mr. Finch, has been publishing a series of very interesting letters, to which he has prefixed the above general title. As they relate to the means of supporting and improving the poorer classes of the community, without resorting to any tax upon others, we shall endeavour to present our readers with the substance of Mr. Finch's seven letters—for to that number the series has now extended.

Ralahine is the name of an estate, situated within twelve miles of Limerick, the property of Mr. John Scott Vandeleur, a gentleman nearly related to Judge Vandeleur. This estate contains 618 English acres. It was cultivated by Mr. Vandeleur himself; but he experienced great trouble in the management of his labourers. The Terry Alt system prevailed in that part of the country; and his land steward, who had made himself obnoxious to some of the working people, was shot dead. Mr. Vandeleur determined, in 1830, to adopt the principle of what is called the "Social System;" and it must be kept in mind, that the people whom he had to employ in this experiment, were, as Mr.

Finch describes them, "miserably poor, grossly ignorant, drunken, idle, vicious, and, perhaps, some of them even murderers." He engaged a young Manchester man, named Craig, who was well acquainted with the principles of the Social System; and, with his aid, and in opposition to the opinions of all his friends and neighbours, he entered upon his experiment. The objects of the "Ralahine Agricultural and Manufacturing Association" were,—“1st, the acquisition of a common capital; 2nd, the mutual assurance of its members against the evils of poverty, sickness, infirmity, and old age; 3rd, the attainment of a greater share of the comforts of life, than the working classes now possess; 4th, the mutual and moral improvement of its adult members; and, 5th, the education of their children.” Mr. Vandeleur proposed to himself the following advantages:—“1st, to obtain a higher rent for his land; 2nd, better interest for his capital; 3rd, to secure the punctual payment of those; 4th, security for the advances he made upon the labour of the people; and 5th, the safety of the property put into their hands.” Mr. Finch, who visited Ralahine in 1833, gives the following account of the manner in which the Society was formed:—

“FORMATION OF THE SOCIETY.—All things being now ready, Mr. Vandeleur called a meeting of those persons from among whom he wished to form the Society. The number that attended was about 40, consisting of the very poorest persons in the neighbourhood, many of them his former work-people, without cottage, no other employment than his, not a shilling of capital, and, among them, six orphan youths and children. His reason for choosing such was, that, should the experiment fail, none of them might hereafter have cause for reproaching him with having made their condition worse than it was before. Being assembled, he explained to them his intentions and views, read his code of laws, and proposed that they should form themselves into a society upon these principles, to which they unanimously agreed. He then produced a ballot-box which he had prepared, explained the nature and use of the ballot, and, after cautioning them of the evils of choosing bad members, he set them to ballot each other into the society;—two that were present were rejected, and the utility of choosing their members by ballot was seen soon afterwards, for the two rejected persons were transported for theft: the labourers knew them to be thieves, at the time, and, therefore, refused them.

“AGREEMENT FOR RENT, &c.—To this society he let the estate of Ralahine, containing, as we have said, of 618 English acres, about 267 acres of which were pasture, 285 acres were tilled, 63½ acres were bog, and 2½ acres were orchard; the soil was generally good, some stoney. This land, together with six cottages, and an old castle, which were converted into dwellings for the married people; all the farm buildings, barns, cow-houses, stables, sheds, &c., part of which he had converted into a public dining-room, and committee and school-room, with dormitories above them for the children and unmarried males and females. There were, also, a saw-mill and threshing-mill, turned by a water-wheel, and the shells of a factory, and of a weaving-shop, but no machinery in them. These premises he let to them for 700*l.* per year, tithe and tax free. For the tools, implements of husbandry, live stock, and advances made to them for food and clothing till the harvest was got in, they were to pay (which was reckoning about 6*l.* per cent. interest) 200*l.* more, making, in all, 900*l.* per year. They were to live together upon the estate, in the buildings provided in common,

and they were to work upon this common capital for their joint interest. After paying the above rent and charges, the remainder of the produce was to be the property of the adult members seventeen years old, and upwards, share and share alike, male or female, single or married. The tools, implements, and machinery, were to be kept up in as good repair as received, and when worn out replaced, and the cattle and other live stock were to be kept up both in number and value. The rent was to be paid in the produce of the estate *always*; the first year it was to be a money rent,—900*l.* worth of produce at the prices at the time in Limerick market; in future years, it was to be a corn rent, consisting of as many bushels of grain, and hundred weights of beef, pork, butter, &c., as was paid the first year; and, whatever improvements the Society might make on the estate, no advance in rent was ever to take place; and, as soon as they had acquired sufficient capital to purchase the stock, a long lease of the property was promised at the same rent.”

Mr. Finch gives the code of rules or laws, drawn up for the government of this Society. The stock, implements of husbandry, &c., were to belong to Mr. Vandeleur, till the society had realized sufficient capital to pay for them. Members were chosen by ballot; and any one wishing to withdraw, had full liberty to do so, on giving a week's notice to the Committee of Direction. Mr. Vandeleur was President of the Society; and had the appointment of the Secretary, Treasurer, and Store-keeper. Every individual was to assist, when it was necessary, in agricultural operations. All the youths, male and female, were to learn some useful trade, together with agriculture and gardening, between the ages of nine and seventeen, after which age, they became members of the Society. The committee arranged, every evening, the work for the next day, to be done both by themselves and others. The orders were written upon slates, hung up in the public dining-room, so that every one got his instructions without trouble; and it was studied to turn none to employments which might be opposed to their feelings, or unsuited to their abilities. This promoted alacrity; and more work was consequently performed. When Mr. Finch was at Ralahine, six very neat slated cottages were finished; the people were happy,—sobriety, order, and good conduct, had completely superseded drunkenness, rioting, and Terry-Altism.

The principal “laws, relating to distribution and to domestic economy,” were the following:—

“That the expenses of the children's food, clothing, washing, lodging, and education, be paid out of the common funds of the Society, from the time they are weaned till they arrive at the age of seventeen, when they shall become eligible to become members.

“That a charge be made for the food and clothing, &c., of these children trained by their parents, and residing in their dwelling-houses.

“That no charge be made for fuel used in the public rooms.

“That each person occupying a house, or cooking and consuming their victuals therein, must pay for the fuel used.

“That all the washing be done together in the public wash-house; the expenses of soap, labour, fuel, &c., to be equally borne by all the adult members.

“That each member pay the sum of one halfpenny out of every shilling received as wages, to form a fund to be placed in the hands of the Committee, who shall pay the wages, out of this fund, of any

member who may fall sick, or meet with an accident.”

The rent, interest, &c., as already stated, amounted to £900 a-year. In 1832, the produce of the estate was nearly £1,700. The expense, however, of erecting houses, purchasing clothes, furniture, &c., absorbed all the surplus, for the first three years. But, the comforts of the people were much greater than before; and it was natural to expect, when the outlay upon houses, &c., was no longer required, that their capital would increase. In his first letter, Mr. Finch states, that Mr. Vandeleur had one fault, and that was, the “fashionable vice of gambling.” It is intimated, that this led to the failure of his experiment. We are not yet, however, informed of the circumstances under which the society was broken up. Mr. Finch will perhaps do this, in subsequent letters.

THE BREEDING OF HORSES, CATTLE, &c. IN RUSSIA AND POLAND.

In the two countries in which these avocations constitute the principal profit and income of the great proprietors a vast court is always attached to their houses, divided into four parts, and surrounded by stables. The horses are classed in these buildings in the order of their worth or destination. At each of the angles of this court is a passage leading to beautiful and extensive pasture grounds, divided into equal compartments, and all of them having convenient sheds under which the horses may shelter themselves from the rain or the sun. These are the seignorial studs, whence are derived the remounts of the principal houses in Germany, and by which the great fairs in the different states of the German empire are supplied.

The breeding of cattle is also zealously and profitably pursued. The cow-houses form the greater portion of the other buildings attached to the mansion. The largest of these is destined for the milch-cows, and a capacious square building serves for the milking-house. These dairies are disposed and fitted up like those in Switzerland. In the middle is a jet of water; slabs or tables of marble occupy every side, and a slight inclination of the floor permits the observance of the greatest possible cleanliness. An upper story serves for the manufacture of different kinds of cheese, that are made in imitation of, and sometimes equal, those which are most esteemed in Europe.

There is a third space or court, enclosed with walls, and with little buildings protected by iron bars. This is destined to be a menagerie for bears of the rarest and the most beautiful colours and yielding the choicest furs. This speculation is a very profitable one. A cub of six months old, with black hair pointed with silver-white, yields a very light skin and fur, and which will obtain a considerable price, especially if there are others of the same variegated colour and fineness sufficient to make a pelisse. A garment of this kind will sometimes be sold for 600*l.* or 1,000*l.* The skins of the old bears are employed for the carpets or linings of carriages, or the most supple of them form the clothing of the coachmen.

Some of the courts are well filled with poultry divided agreeably to their respective breeds.

In the habitations of the peasants one half of the cabin serves for the family, and the other the cattle, which ordinarily consist of a cow and a small horse.
—*Journal des Haras.*

ON THE EFFECTS OF THE INTRODUCTION OF AIR INTO THE VEINS OF LIVING ANIMALS.

By MR. YOUATT.

(From the Veterinarian.)

The Royal Academy of Medicine at Paris has been lately employed in the discussion of this most important pathological and physiological subject. A summary of the debate, and the conclusions at which the Society arrived, may not be uninteresting to our readers. We condense it from that valuable periodical *Recueil de Médecine Vétérinaire*.

The fatal effects of the introduction of air into the veins has long been known among veterinary surgeons. The forcing of atmospheric air into the vessels that carry black blood, for the purpose of destroying the animal, is of considerable standing. It is spoken of by Tissot in 1768, and by Morgagni in 1787. Chabert, in his *Treatise on Glanders*, published in 1787, speaks also of the injection of air into the jugulars, and recommends it as the surest and most expeditious way of destroying an animal. He prefers it to all other methods of accomplishing this object, because it effects no other change in the viscera than distention of the parietes of the heart, and consequently enables us better to appreciate the lesions which were actually produced by the disease.

The phenomenon of the accidental introduction of air into a vein wounded in a surgical operation is a new fact in veterinary medicine. It was recorded for the first time by Professor Verier, in the *Compte-rendu* of the Veterinary School of Alfort in 1806, and it occurred during the bleeding of a horse from the jugular.

The second occurrence of the same nature was in the practice of Mr. Bouley, jun. in 1819, and is published in the first volume of *Magenie's Physiological Journal*. We insert his account of it, as given at a late sitting of "The Academy of Medicine."

"I was desired in 1819 to examine the horse of a person in the Isle of St. Louis, which was beginning to be attacked with pneumonia. Judging it necessary to bleed him, I opened the left jugular vein in the usual way. There was nothing in the operation which could afford cause of alarm. The opening was large, and in perfect relation with that of the vein; the blood flowed readily in one regular stream, and without any jerk in the current (*sans saccades*). In a word, I repeat it, there was no cause of alarm.

"The vessel into which the blood flowed not being large enough to hold the full quantity which I intended to abstract, I sent it away by my assistant, in order that it might be emptied, and withdrew my pressure on the portion of the vein below the incision. I had scarcely turned myself round, when I heard a sort of gurgling like that of air rushing into a bottle while the liquid is poured out. I took little notice of it, for I had heard a similar sound many and many a time without any harm following, and, my assistant having returned I continued the bleeding. After having filled a second vessel, I stopped the bleeding in the ordinary way; that is to say, by piercing the edges of the orifice with a pin, and twisting some of the hair from the mane round it. I then led the animal back to his stable, which was only a few paces distant.

"I had scarcely got him into the stable when

he began to tremble all over—his respiration was laborious and plaintive—the pulse small, irregular, and quickened—he groaned deeply two or three times, and then fell on his litter as if he had been struck with lightning.

"I will not dissemble my affright at these unusual and alarming symptoms, and my apprehension that the animal would immediately expire. I had no doubt that his death would be attributed altogether to me, since I had advised the bleeding, and performed it myself. Nevertheless, in spite of my agitation, all the circumstances which had preceded and accompanied the bleeding rapidly presented themselves to my mind, and especially I recollected the noise which I had heard at the moment when I had ceased to press the vein. This was a sudden ray of light, and I felt assured that the whole was to be attributed to the introduction of air into the vein. I will confess that, at that time, I knew nothing more of the nature of the accident than I had read in Bichat's *Treatise on "Life and Death."* I recollected that that celebrated physiologist had asserted that a small quantity of air was sufficient to destroy the animal, and that he would die as soon as the blood charged with air reached the brain. Acting on this belief, which was an erroneous one, no doubt, (but we may be permitted to err with Bichat as our companion), I thought that another bleeding offered the only means of saving the animal; I hastened therefore to withdraw the pin, and to permit the escape of a new stream of blood. As it ran, the horse seemed to regain new life—he made several fruitless efforts to rise, and in five or six minutes after this new bleeding he accomplished it. When he was up, his pulse became sensibly developed, and lost its rapidity; the respiration was fuller, and less precipitated; and half an hour after the accident all danger had disappeared, and he was in the same state as before the first bleeding. A new, and very remarkable symptom, however, began to appear—the animal seemed to acquire an extreme degree of sensibility over the whole of the right side of the body (the opposite one to that on which he had been bled), accompanied by a most violent itching. He laid himself down, and rolled over and over, and rubbed himself against every thing that would afford the slightest resistance.

"This singular phenomenon deserves the attention of the Academy. It confirmed the opinion of Bichat, and seemed to demonstrate that, in this case, the air had a peculiar effect on the left side of the brain. It is thus alone that we can explain the *singular hemiplegia* with which he was affected.

"As to the primitive disease—pneumonia—it pursued its usual course, and terminated favourably in about a month.

"I am inclined to draw the following conclusion from the case which I have just stated,—that when we bleed a horse from the jugular vein, we ought at the moment when we cease to compress the vein, to place the finger for a few seconds on the aperture, in order to give the superior column of blood time to fill the vacuum which has been made in the interior part of the vessel. By taking this precaution, I think that we should always avoid the accident which occurred to me, and which might be productive of the most injurious consequences, both to the veterinary surgeon and his patient."

There is a third case of this kind in a collection, yet unpublished, of practical facts, by M. Riss, of the Royal and Central Society of Agriculture. "After having extracted about ten pounds of

blood," says he, "at the moment when I withdrew the vessel that held it, and which at the same time had made the necessary pressure on the jugular, we heard a noise—a species of gurgling within the vein,—and we immediately afterwards saw a kind of bloody foam exuding from the orifice that had been made by the fleam. We immediately attributed it to the entrance of air into the jugular, and, instead of pinning up the orifice as I intended, I compressed the jugular anew, and took away about four pounds more of blood.

"Hitherto the animal did not appear to have suffered any injury, and I ordered him to be led back to the stable; but he had scarcely gone 40 or 50 paces before he suddenly stopped, staggered, fell, and began to beat himself with violence. He made several efforts to get up, but fell again immediately. Fearing that he would bruise himself sadly by these struggles, I caused him to be held as firmly down as possible.

"During the whole of this time—a quarter of an hour or more—his eyes rolled in their orbits; his flanks heaved violently; his breathing was loud and precipitate; his ears, muzzle, and extremities became cold; the testicles were retracted into the abdomen, and the pulse was scarcely perceptible.

"I ordered frequent ablutions of cold water over his head and scrotum, and employed several men in rubbing him well all over.

"By little and little the respiration became quieter and less accelerated, the testes descended into the scrotum, the pulse began to be developed, and the horse was covered by perspiration. I then proposed to let him rise, which he did in a moment. He was led on to his stable; the sweat by degrees dried away, and an hour afterwards it was difficult to perceive that any thing had ailed him."

Such are the only three cases that have occurred in veterinary practise of accidents happening from the accidental introduction of air into the veins in surgical operations. In human surgery, however, these cases have been much more numerous. They have amounted to more than thirty. Our space does not permit us to give a detailed history of any of these cases, and we will only say that, during some surgical operations on the superior part of the chest, and in the neighbourhood of large venous trunks, this introduction of air into the veins has occurred. It has always been accompanied by a kind of gurgling or of hissing, as when the air is admitted in small quantities into the cavity of an exhausted receiver, or, according to others, more resembling the sound when air is rushing through a small aperture in the chest of a living animal. We will add that in every case, at the close of this noise, evidently occasioned by the rushing of air into the vein, some fearful symptoms have followed, such as plaintive cries, syncope, distortion of the eyes, extreme paleness, imperceptible pulse, suspended respiration, and that the succession of these symptoms has been strangely rapid, and the death sudden.

Surprised at these remarkable phenomena, produced by the penetration of air into the circulatory vessels, physiologists have engaged in various experiments, with a view to discover the mode of action of this fluid on the living tissue, and the organs which are so strangely affected by it. Treading in nearly the same path, the different experimentalists have arrived at strangely different conclusions.

Bichat, in his treatise "On Life and Death,"

maintains that the air introduced into the venous vessels destroys the functions of life by its direct action on the brain, and that the circulation is necessarily interrupted, because the cerebral influence is first suspended.

Nysten, on the contrary, after numerous experiments made in 1811 on this subject, arrived at the conclusion that the atmospheric air injected into the venous system of different animals, destroys them by causing an enormous distention of the pulmonary auricle and ventricle. When, however, a great quantity of air is introduced, the bronchial passages are embarrassed by its presence, and thence results cough, spumy expectoration, guttural breathing, death, and altered structure of the lungs.

M. Magendie attributes the death of the animal to the sudden cessation of the circulation, in consequence of the accumulation of air, and its rarefaction in the cavities of the heart, which it distends, and to the contraction of which it opposes itself.

M. Leroy D'Etrolles says that the air may cause death in three ways—by its influence on the brain, agreeably to Bichat's opinion, either affecting its sensibility, or acting upon it mechanically; or by its influence on the lungs, causing sudden emphysema of these organs; or by its influence on the heart, in depriving it of arterial blood. According to M. Picdagnel, death results from pulmonary emphysema.

M. Mercier thinks that the air, by reason of its compressibility, yields to the contractile powers of the right cavities, and occupies a smaller space; but that when these cavities begin to dilate, the air, acquiring its former volume, fills these cavities, and prevents the entrance of the blood; and thus the stagnation of the venous blood, and the interruption of the arterial circulation, are the causes of death.

Such was the unsatisfactory state of knowledge on this question when M. Amussat undertook some new experiments. The commission of the Academy likewise instituted a course of experiments, to the number of forty.

Twenty-nine were made on dogs, and had reference, first to the spontaneous introduction of air into the jugular, subclavian, and axillary veins; secondly the introduction of this fluid into the venous vessels through the medium of a sound placed in one of them, and the air then introduced either by the natural expansion of the chest and the heart, or by artificial injection.

In both cases the subjects of the experiments were sometimes placed in a horizontal and sometimes a verticle position; and in both the one and the other, on animals sometimes debilitated and sometimes not, before the experiments.

After having stated the results of these experiments, varied in different ways, the reporter gives some details of the effect produced by the introduction of air previously breathed and procured from the human chest. He concludes by stating the effect of various experiments, attempted with a view to prevent the fatal result of the introduction of the air.

They experimented also on eleven horses, following pretty nearly the same courses. Their details will be given in a future number.

FARMING IN THE OLDEN TIME.—From an ancient Latin tract, supposed to have been written about the latter end of the thirteenth century, and which, although chiefly a treatise on law, yet contains many

passages relating to rural economy, we learn that husbandry was conducted with more regard to precision than might be thought consistent with the rude habits of the times. It points out the several duties of the steward, the bailiff, and the labourers, from which it appears that even in that age, when education was so rare, the farm accounts on large properties were kept with scrupulous accuracy; and it gives many directions respecting the tillage of land and the management of cattle, that are not inapplicable to the practice of the present day. Yet the learned author estimates the possible returns from the soil so low as to inform us that, unless an acre of wheat yielded three times the seed sown, the farmer will be a loser, if corn were not unusually dear. His calculation is as follows:—

	s.	d.
Three ploughings	1	6
Harrowing	0	1
Two bushels of seed	1	0
Weeding	0	0½
Reaping	0	5
Carrying	0	1
	3	1½

Which is about the value of six bushels of wheat at the time he wrote, and exclusively of rent, of which nothing is said. But Sir John Cullom and Sir F. M. Eden, who have devoted much attention to the subject, assume the average crop to have been about twelve bushels; and the former remarks that—"Supposing 4s. 6d. to be about the mean price of a quarter of wheat, and 4d. a year's rent of an acre of land, the disproportion between the produce of the land and its rent is almost incredible; for if an acre produced in general only a quarter and a half, it would, if the ground was cropped only two years together, give the husbandman thirteen times the rent of his land, one year with another; a profit which the best farmers in the present state of improved agriculture can rarely reach."—*Kentish Observer*.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—You will much oblige several of your subscribers by answering the following queries, either through your friends and readers, or by the assistance of your own knowledge, on the points, the latter of which, materially concerns very many tenant farmers in the kingdom.

AN OLD SUBSCRIBER.

QUERY.—How much bone-dust should be applied per acre, on good sandy loams, for turnips, and how should it be deposited in the land? Should the seed and manure be placed in the same drill or not? Should the seed and manure be put in at the same depth, or should the seed be placed nearer the surface than the manure?

The owner of the farm occupied by A, and the owner of the great and small tithes arising from the said farm are both quiet previous to Michaelmas 1838, on the matter of commuting the said tithes, and so long that previous to any arrangement or proposals for arrangement between the landowner and titheowner of A's farm some tithe arises; A heretofore for several years having paid a composition for both great and small tithes of his farm.

QUERY.—Should A neglect to set out his tithe when it arises and remain equally quiet with landowner and titheowner, will he be answerable for the usual amount of composition? If he is answerable, will he be so to the landowner or the titheowner? It being evident from the tithe bill, that in the event of A's landlord commuting for the tithes of A's farm, at such a sum as is not agreeable to A the tenant, the landlord must pay the titheowner the commuted sum, and take A's tithes in kind.

DREAMS OF THE OLDEN TIMES.

HOW TO PLOM VP A HORSE, AND MAKE HIM FATTE AND LUSTIE; AND ALSO HOW TO KEEPE A JADE FROM TIRING BY THE WAY, AND TO MAKE HER TO FOAME AT THE BIT.

Take Cœula Campana, commin seed, tumericke, and anniseeds, of each a pennie-worth, and seeth them well with three heads of garlick amongst them, well stamped, in a gallon of ale; then streine it, and expresse as much of the substance as you may well wring out, and giue your horse to drink there of blood warme, a full quart at once; and then ride him til he be hot, then stable him, litter him well and currie him until he be colde; doe the like two or three mornings together, and so turn him to grasse, and he will thriue wonderfullie in a short time. Some commend a handful of grunsell sodden in the afore said ale with the rest of the ingredientes.

But if you keep him in the stable, give him to eat in his prouender the rootes of Cœula Campana with some commin seeds both beaten together, or the cœula campa small shred for fourteen days together, and it will make a leane jade to thrine more in one month than otherwise she would do in three.

When you ride abroad vpon a hired hackney, carie a good quantitie of the powder of cœula campa with you in some leathern bag; and when others dee baite their horses in their ordinarie manner, your horse being first well walked, littered, and rubbed, giue him a handful of this powder in a quart of stronge ale with a horne, and tie his head high to the rack, and you need to giue no other or verie little prouender vntil night; then let him be well meated, and giue him in the morning two peny vworth of bread and his ale with the powder, but water at night.

This a friend of mine yet living did learn of a good fellow that had been a ranke rider in his daies, by whose meanes though his hackney tired at Bristol, yet this companion for his better encouragement seeing him all out of heart, by reason that he was like to lose so good companie as was then gathered together, he exchanged horses with him, and brought the hackney (by the means aforesaid) verie quicke and liuely vppe to London: and also if you tie a prettie little bunche of peni-royal, about the bit within the horses mouth, the horse champing thereon will foame gallantie and trael with much more courage. Another gentleman told me that whenever he found any jade to tire vnder him, he would presentlie take off his saddle, and with a good quantitie of *arsesmart* (which is a herb that groweth in almost euerie ditch and standing water) rubbe him well on the backe vnderneath the saddle, and afterwards lay a good quantitie of *arsesmart* vnderneath the saddle, and so ride him any reasonable journey. These secrets I thought good to discover for the benefite of all English trauellers, and I hope they are true, because my authors are alieue, and speake of their own experience, and not by bare report from others; they doe also carrie great probabilitie with them.—*Sir Hugh Platte's Jewel House of Art and Nature*, 1594, p. 27.

IMPORTANT TO FARMERS.—*Carruthers v. Hollis*.—This was an action for unlawfully driving the plaintiff's sheep into the highway, and leaving them there whereby they were injured. The defendant pleaded that they had broken into his field, and that he had driven them out, as he lawfully might. The cause was tried before Mr. Baron Gurney, at Moamouth,

when it appeared that the sheep had strayed from the field of the plaintiff into that of the defendant through a defective fence, which it was the duty of the defendant to repair; that the defendant had driven them out of his field into the road, from which they might have got into the field of their owner, but that he had not taken the precaution of making them go into that field, and some of them got injured in the road. The question was, whether the defendant ought not to have driven them into their owner's field instead of leaving them in the road to get there or not, as they might please. A verdict had been given for the plaintiff.—Mr. RICHARDS now moved to arrest the judgment, on the ground that the defendant was not bound to do more than to drive the sheep out of his own field.—The Court, however, held, that as the sheep had escaped into the defendant's field through the defect of his fence, he was bound on driving them out to drive them into the place from which they had so escaped.—Rule refused.

STOCKBRIDGE CATTLE-MARKET.

The Spring Show took place on the 3d of May, when considerable interest having been excited by the various sweepstakes and premiums, there was a strong muster of the neighbouring agriculturists, and a large exhibition of stock.

After the show, eighty-two gentlemen sat down to dinner at the Grosvenor Arms Inn, Peter Green, Esq., in the chair.

After the usual loyal and patriotic toasts, the Chairman called on the judges for their decisions, and they declared

Mr. John Twynam (of Whitchurch) to be the winner of the sweepstakes for the best ram; but they felt bound to notice the excellence of the rams exhibited by Messrs. Godwin, Longman, and Dear.

On Mr. Twynam's health being given from the Chair, with some flattering observations on his stock, Mr. T. returned thanks, and expressed his determination to support the market.

Mr. John Pain, of Houghton, was then declared to be the winner of the sweepstakes for ewes (the judges again complimenting Mr. Longman on his ewes).

The Chairman gave Mr. Pain's health, and remarked how much the neighbourhood was indebted to him for the spirited manner in which he at all times brought out his stock, and supported the market.—Mr. Pain returned thanks.

The Chairman then said, that, after the observations made by the judges on Mr. Longman's stock, in which he most fully concurred, he would propose his health, and begged to assure him he might with confidence anticipate the next year's show.—Mr. Longman returned thanks, observing, that, though beaten, he would certainly try again and again.

Mr. Holloway was declared winner of the premium for the ten best ewes, and the Chairman, in proposing his health, remarked, that he believed it was his first appearance as a competitor at the market, and he hoped his success would induce him to come again.

The sweepstakes for the ten best lambs was given to Mr. Charles Penton, of Bramsbury, and the premium for the second-best lambs to Mr. W. North, of Barton Stacey.

Mr. Charles Fielder, of Spasholt, having been declared winner of the sweepstakes for the best wethers, Mr. John Twynam begged to propose his health, and to assure him, that, in his opinion, the stock which he had that day exhibited reflected the greatest credit on him, and was well deserving the notice which it had attracted in the market.—Mr. Fielder returned thanks.

The other sweepstakes and premiums were disposed of as follows:—For the best pig, to Mr. Isaac Sadler; the best sow, Mr. R. W. England; the best calf, Mr. French; the ten best store-pigs, Mr. W. Russell.

The Chairman then proposed, as the next toast—"Prosperity to Stockbridge Market."

Mr. Busigny said, that, deputed as he had the honour

to be, by no fewer than eighty-six persons who had requested him on the present occasion to claim the attention of the meeting, he must beg their kind indulgence for a short period. He knew that the company were generally aware of the object for which he had risen—that it was to do honour to their excellent Chairman. (Addressing the Chair more particularly, Mr. B. continued.) "We well recollect, Sir, how strong and staunch a supporter of this market you have been, and how much we have benefited by that support. We recollect, too, that some few years since, you were the owner and occupier of considerable landed property in this neighbourhood. We recollect the kindness and courtesy which you then exhibited to all; and gratifying we hope it will prove to you, to find that your kindnesses and courtesies have neither been overlooked nor forgotten. I would, Sir, that you could go into the parish of Houghton, and hear the labourers for whose welfare you had so much regard—I would that you could hear them talk of the good old times of Peter Green. (Mr. Busigny then produced a very handsome snuff-box.) The cost of this snuff-box, Sir, has been raised by subscription—and, although not very costly, yet it is invaluable. It is a testimony and mark of the respect, esteem, and affection entertained towards you by a numerous body of friends. It is a mark of respect which money could never have purchased, and which you will have obtained by the exercise of that goodness and benevolence which are the effusions of a good heart. Eighty-six gentlemen have, in 1838, thought it due to you to request your acceptance of this trifling mark of their respect and esteem—and, trifling though I have termed it, yet in reality it is most valuable to you, as it is an assurance, not to a man in wealth and power, which might then be suspected, but to a gentleman now unfortunately no longer an owner and occupier of estates in this neighbourhood, and resident a considerable distance from us,—it is an assurance, that you still have place in the recollections and affections of grateful friends." (*Loud cheers.*) After a few further remarks, the box, containing a suitable inscription, was presented by Mr. Busigny to Mr. Green, the company having drunk his health with due honours.—Mr. Green rose.—It was in vain for us to endeavour to catch what fell from him, owing not merely to the cheering, but to the excitement under which Mr. Green evidently laboured. We could only understand that he thanked his friends most deeply and sincerely.

The health of Mr. Busigny having been given, that gentleman, in returning thanks, observed, that nothing gave him more pleasure than when, throwing aside the lawyer, he could render any service to those kind friends amongst whom he had the happiness to live.

The healths of Mr. John Pyle and the other unsuccessful candidates—of General Yates, of the Judges, the Members for South Hants—Sir W. Heathcote, C. Baring Wall, J. M. Elwes, Sir F. Cantry, R. Etwall, Esq., the Rev. F. Dyson, the Rev. Walter Blunt, &c., were subsequently given with due honours.

Before the separation of the party, Mr. Charles Fielder, at the pressing solicitation of the subscribers, consented to become President at the next meeting, and numerous Sweepstakes for the ensuing year were entered into.

LUSUS NATURÆ.—One of the most remarkable specimens of the above we have heard of for some years is now in the possession of Dr. Rawson. It is a chicken with two heads, and a neck with two distinct columns of vertebrae, enclosed in one envelope of skin—it has four legs, four wings, two tails, and two backs clearly developed—and on examination it was found to contain but ONE heart. This singular creature was hatched by a hen belonging to Mr. Wm. Fitzmaurice; and, it is much to be regretted that it was killed by a dog, otherwise, there is reason to believe, from the perfect state of its formation, it would have arrived at maturity.—*Carlisle Sentinel.*

THE HORSE.—FOOD.

KINDS OF FOOD.—In this country horses are fed upon oats, hay, grass, and roots. Many people talk as if they could be fed on nothing else. But in other parts of the world, where the productions of the soil are different, the food of the horse is different. "In some sterile countries, they are forced to subsist on dried fish, and even on vegetable mould; in Arabia, on milk, flesh-balls, eggs, broth, &c. In India, horses are variously fed. The native grasses are judged very nutritious. Few, perhaps no oats are grown; barley is rare, and not commonly given to horses. In Bengal, a vetch, something like the tare, is used. On the western side of India, a sort of pigeon-pea, called gram (*cicer arietinum*), forms the ordinary food, with grass while in season, and hay all the year round. Indian-corn or rice is seldom given. In the West Indies, maize, Guinea-corn, sugar-cane tops, and sometimes molasses are given. In the Mabratta country, salt, pepper, and other spices, are made into balls, with flour and butter, and these are supposed to produce animation, and to fine the coat. Broth, made from sheep's-head, is sometimes given. In France, Spain, and Italy, besides the grasses, the leaves of limes, vines, the tops of acacia, and the seeds of the carab-tree, are given to horses."*

The articles upon which horses are fed in this country are usually arranged into three classes. That which possesses the least nutriment, in proportion to its bulk, is termed *fodder*, and consists of grass, hay, and straw; that which possesses the most nutriment, in proportion to its bulk, is termed *corn*. This word is often used as if it belonged exclusively to oats; but it is a general name for all the kinds of grain and pulse upon which horses are fed. In this work it is used only in its general sense. *Roots*, such as carrots, turnips, and potatoes, form the third kind of food. In relation to their bulk, they have less nutriment than corn, and more than fodder. I do not think this classification is of any use, and here it will not be regarded, but it is well to know the meaning usually attached to the terms.

GREEN HERBAGE.—There are several kinds of green meat, but the individual properties of each are so little known, that much cannot be said about them.

GRASS is the natural food of horses. It is provided for him without the interference of art. It is composed of a great number of plants, differing much or little from each other in structure, composition, and duration. Some of the natural grasses are to the horse mere weeds, destitute of nutriment, though not positively injurious. Several are rejected, or eaten only when there is nothing else to eat, and none are sufficiently rich to maintain the horse in condition for constant work, even though the work be moderate. At a gentle pace, he may travel a few miles to-day, but he is unfit for a journey to-morrow. By cutting the grass and bringing it to the stable, the horse may be saved the labour of collecting it; but still he can render very little service.

Grass, however, or green herbage of some kind, is given to almost all horses during a part of the year. The young animals, from the time they are weaned till they are fit for work, receive grass as long as it can be had. Hunting and racing colts excepted, they receive little else.

It is commonly believed that grass has some renovating and purifying properties, not possessed by hay nor by corn. It is true that all the kinds of

green herbage, including clover, saintfoin, lucerne, tares, and ryegrass, produce a change upon the horse. But whether the change be for better or for worse, is another question. For the first two or three days, green meat relaxes the bowels and increases the secretion of urine and of perspiration. Very often it produces an itchy eruption on the skin, particularly when given along with a large allowance of corn. When the horse is permitted to eat what he pleases, the belly becomes large. These effects may be termed immediate. They are most apparent at the commencement, but are visible so long as the horse receives any considerable quantity of grass. Green meat produces other effects not so easily traced. Wounds heal more kindly, inflammatory diseases are not so fatal, and chronic diseases frequently abate, or they entirely disappear under the use of grass. The horse, however, is always soft, when fed much on green meat. He sweats a great deal, and is soon exhausted by his work.

CLOVER, RYEGRASS, TARES, LUCERNE, SAINTFOIN, and the OAT-PLANT, are all used as green meat. So far as the horse is concerned, one seems to be as good as any of the others. They appear to produce the same effects as grass. Amid such variety we might expect to find some difference, but I have not been able to perceive any. Some horses, indeed, like one article better than another, but this seems to be mere taste, for no one of them appears to be generally preferred nor rejected. There are various opinions, however, as to the comparative value of these articles. Some affirm that clover is less nutritious than ryegrass, some that tares are poor watery feeding, and others that lucerne and saintfoin are the best of the whole lot. But opinion on the subject seems to be quite vague. Whatever one affirms, another will be found to deny. In Scotland, lucerne and saintfoin are very little used; but clover, ryegrass, and tares, are given each in their season, as if one were equal to another.

Beans, wheat, rye, and oats, the whole plant, are sometimes, but very seldom, and never regularly used as for horses. Cabbage, and some other green articles, are eaten, but they deserve no particular notice. Several, which form the ordinary green meat of horses in other countries, are not grown here. The leaves and clippings of the wine are much used in many parts of France.

WHIN, FURZE, or GORSE.—This is an abundant and cheap plant. It is very good green meat for horses, and is procured when there is no other. To sick horses it is an excellent substitute for grass, and many will eat it when they will eat nothing else; but it has been extensively tried as an article of ordinary feeding. It has long been used in many parts of Wales and of Scotland, and in several of the Irish counties. Mr. Tytler of Balmain was the first, I understand, to publish a useful account of its properties. His Essay will be found in the fifth volume of the Highland Society's Transactions. "It appears that, for five successive years, Mr. Tytler fed his farm-horses from the beginning of November to the middle of March, on furze and straw, with a very moderate allowance of oats during only a part of that time. At first oats were given throughout the winter, but afterwards only from the beginning of February, and then only at the rate of three pounds two oz., or about one-third of a peck, of average quality, to each; the daily allowance of furze during the first period being twenty-eight pounds, and during the second, eighteen pounds, with fourteen of straw.

"The whins were cut by a woman. Provided with a pair of stout hedge-gloves, a sheep-skin apron,

* Louden's Enc. of Agric., p. 1004.

a reaping-hook, and a forked stick, she drew the plants to her with the fork, and cut off only the succulent shoots of the year's growth. These being laid in bundles compressed by a stroke of the foot, were ready for carting. Sufficient for a dozen horses at their fullest feed, could be cut in six or seven hours. A mule and boy carted the load to the farm-yard, where the mule was yoked to a bruising-mill. This consisted of an old mill-stone, mounted upon a horizontal axle twelve feet long, attached by one end to a post, round which the stone revolved on a paved circular bed, eight feet in diameter. To the other extremity a swingle-tree was hung for yoking the mule. The whins were spread in the course, and turned over until sufficiently crushed. This process occupied about three hours.

"The daily expence of feeding eight horses was thus calculated by Mr. Tytler:—

	Nov. to Feb.		Feb. to March.	
	s.	d.	s.	d.
Woman's wages.....	0	6	..	0 4
Part wages of boy....	0	4	..	0 3
Part keep of mule.....	0	4	..	0 3
1 cwt. of straw.....	2	0	..	2 0
25lbs. of oats.....	0	0	..	2 6
	3 2		5 4"	

By this it appears that the keep of each horse, per day, amounted to only fourpence three farthings in the first period, and eightpence in the second. The work was the same as that of other Berwickshire teams, which is by no means light; and Mr. Tytler says, the horses not only kept, but improved their condition during the whole season: but they began to show a distaste to the whins about the commencement of spring.

Furze is generally used on the frontiers of France and Spain; and the British cavalry while in the Pyrenees, under the Duke of Wellington, had no other forage.

According to the Mid-Lothian Report (Appendix, No. VI. p. 56), an acre of whins has been found sufficient for six horses, during four months; that they require two years to produce them; that horses, with whins, and one feed of corn, were in as good order as with two feeds and straw;* that all the straw and one feed of oats were thus saved; that, valuing these at sevenpence a-day each horse, the saving in seventeen weeks, amounted on the six horses, to £17 17s.,—from which, deducting five shillings a-week as the expence of cutting and bruising, there would remain £13 12s. as the product of two acres.†

DRY HERBAGE.—In this country the dry herbage consists of hay and straw. In France, the vine-leaves are collected and stored for winter fodder. In the West Indies the tops of the sugar-cane are deemed highly nutritious, after they are dried and sweated a little in heaps. In a season of abundance ricks of the cane tops, the but-ends in, are made in a corner of each field, to supply the want of pasturage and other food. These are chopped small, and mixed with common salt, or sprinkled with a solution of molasses. Maize is sometimes made into hay. "When Guinea or Indian corn is planted in May, and cut in July, in order to bear seed that

year, that cutting, properly tedded, makes an excellent hay, which cattle prefer to meadow hay. In like manner, after the corn has done bearing seed, the after crop furnishes abundance of that kind of fodder, which keeps well in ricks for two or three years."* In some places dried ferns, reeds, flags, small branches, or twigs, are dried and used as substitutes for hay.† Doubtless there are many other plants made into fodder in different parts of the world. Where Canary corn is raised, the chaff and straw are given to horses, from which it is said they derive more nutriment than from hay.

HAY.—In Scotland most of the hay used for horses is composed of ryegrass, or ryegrass and clover. The natural hay, which is not very much used here, contains several plants. Much of the hay in Scotland is bad. A good deal is grown on poor land, and this is soft, dwarfish, and destitute of nutriment. But hay in general is not well made. In the south it is cured with more skill, and preserved with more care. The best we have in the west of Scotland, is procured from Stirlingshire, and is composed of ryegrass and a little clover.

In England clover-hay stands in high repute for hard-working draught horses. In the market it brings 20 per cent. more than meadow or ryegrass hay. Hard upland meadow hay is preferred for hunters and racers, because I suppose they are apt to eat too much of the clover. In Scotland, ryegrass, or a mixture of ryegrass and clover, is considered the best for all horses. Here we have almost no good meadow hay, and most of that made from the natural grasses is hardly worth preserving.

GOOD HAY is about a year old, long and large, hard, tough; its colour inclining to green, rather than to white; it has a sweet taste and pleasant smell; the seed is abundant; infused in hot water, it produces a rich dark-coloured tea. The less dust it has about it the better; but, from the soil, and the way in which hay is made here, it is seldom free from dust. In damp weather hay absorbs much moisture, and weighs a good deal the heavier. In England, the market weight of new hay is sixty pounds per truss till the 4th of September. The truss of old hay contains only fifty-six pounds.

NEW HAY is purgative and debilitating. It seems to be difficult of digestion. The horse is fond of it, and will eat a large quantity, much of which passes through him little altered by the digestive process, and probably retaining a good deal of its nutriment. On the other hand, hay which is very old, is dry, tasteless, brittle. The horse rejects much, and eats little. Old hay is much recommended; but by old, I suppose is meant not new. In the south, perhaps stacked hay does not so soon degenerate as in the north, where it is certainly old enough in one year.

HEATED HAY, sometimes termed mowburnt, is that which has undergone too much fermentation. In curing hay it is thrown in a heap to sweat, that is, till a slight degree of fermentation takes place, which is arrested by exposing the hay to the air. This, it appears, is necessary for its preservation in the stack. But sometimes the process is carried too far, or, more frequently, it is re-excited, after the hay is stored past. Hay that has been thus injured is not all alike. Some of it acquires a very sweet sugary taste; and this portion is eaten; some of it is changed in colour to a dark brown, and has its texture altered; it is short, brittle as rotted wood, and has a disagreeable taste; this portion seems to be rejected; another portion of the same stack is

* The "order," I suspect would be nothing to boast of.

† British Husbandry, Vol. i. p. 135. See also the Annals of Agriculture, Vol xxxv. p. 13. Ency. Brit. art. Agriculture. Farmer's Mag. Vol. xx. p. 282. Comp. Grazier, fifth ed. p. 559; and Quar. Journal of Agric. No. xi.

* Bracy Clarke's Pharmacopœia Euinga.

† Blaine's Outlines of Vet. Med.

mouldy, stinking, quite rotten, and no horse will eat this. All kinds of hay, however good originally, may suffer this injury. When the damage has been slight, most horses will eat certain portions of the hay very greedily; they seem to be fond of it for the first week, but subsequently it is rejected in disgust. Upon the whole, I believe it is the most unprofitable fodder that horses can receive. When very bad it is dear though obtained in a gift, for it often does much mischief, particularly to horses of fast work. Much is wasted, and that which is eaten does little good. It is almost as poisonous as it is nutritious. Slow draught horses may not, indeed, be greatly injured by it. But good wheat straw may be better. To fast, hard-working horses, such as those employed in mails, it is a strong diuretic; and its diuretic power does not diminish by use. Hay forms an important part of the horse's food, particularly of those horses that receive no roots nor boiled meat. Bad hay will change the horse's appearance and condition in two days, even when he has an unlimited quantity of corn. By bad hay, I mean that which is unwholesome. It may be poor, having little nutriment, but sweet and digestible, without being pernicious. But good straw is better than unwholesome hay for all kinds of horses. The kidneys are excited to extraordinary activity. The urine, which, in this disease, is always perfectly transparent, is discharged very frequently and in copious profusion. The horse soon becomes hide-bound, emaciated, and feeble. His thirst is excessive. He never refuses water, and he drinks as if he would never give over. The disease does not produce death, but it renders the horse useless, and ruins the constitution. Should he catch cold, or take the influenza which prevailed so much in Glasgow during the winter of 1836, glanders is seldom far off.* This worthless hay is always sold at a low rate, and much of it enters the coaching stables, but I am perfectly sure that it would be cheaper to pay the highest price for the best. One ton of good hay, will, unless the men be excessively careless, go as far as two tons of that which is bad. To slow-work horses, mowburnt hay may be given with less detriment, but it is least unprofitable when consumed by cattle.

MUSTY HAY is known by its bad colour, its unpleasant smell, and bitter taste. It is soft and coated with fungi. Like all other hay its smell is most distinct when slightly dampened by breathing upon it. Old hay is often musty, without having been heated. None but a hungry horse will eat it, and when eaten in considerable quantity it is said to be "bad for the wind." In truth, it is bad for every part of the body. In some places they sprinkle this musty hay with a solution of salt, which induces the horse to eat it, but even thus, it answers better for bedding than for feeding, and to that purpose the horse applies the most of it.

WEATHER-BEATEN HAY is that which has lain in the sword exposed to the rain and the sun. It is musty, full of dust, sapless, bleached, or blackened and destitute of seed. Such, also, is the state of that which has stood too long uncut. All hay should be cut a few days before the seed is quite ripe. After it has lost most of its seed, and its juices, little is left to afford nutriment.

SALTED HAY, that is, hay with which salt has been

mingled at the time of stacking it, is not much used in Scotland. It is not to be had. I can tell nothing about it. Horses are said to prefer it to any other. But the principal motive for salting hay is to preserve it when the weather requires that it be stacked before it is sufficiently dry. Salt prevents or checks fermentation. It darkens the colour of the hay and makes it weigh heavier, for salt attracts moisture. Salt, I think, should not be forced on the horse. It may excite too much thirst. Given apart from the food, he may take all that is good for him. Damaged hay is often sprinkled with salt water, which seems to render it less disgusting, and may possibly correct its bad properties. It should be wetted as wanted, for it soon becomes sodden and rotten.

THE DAILY QUANTITY OF HAY allowed to each horse must vary with its quality and the work. If the corn be limited, the horse will eat a greater weight of poor hay than of that which is more nutritious. If it be damaged, he must consume more than if it were sound, for he rejects some, perhaps a half, and that which he eats does not furnish so much nutriment. When the work is fast, the horse must not have so much as to give him a large belly. Eight pounds of good hay is about the usual allowance to fast-working horses, who may receive from twelve to fifteen or eighteen pounds of corn. Large draught horses will consume from twenty to thirty pounds, but the quantity is seldom limited for these. Much, however, depends upon the allowance of corn. A German agriculturist calculates that eight pounds of meadow-hay, or seven of that made from clover, tares, or saintfoin, afford as much nourishment as three pounds of oats. Of the hay raised on poor soils, nine pounds may be required.

A horse can live on hay and water, and when thrown off work for a considerable period he often receives nothing else. This is not always right. The horse becomes so feeble and so pot-bellied that it is long ere better food will restore his condition for work. A little corn, some roots, or a bran-mash, though given only once in two days, will help to keep him in flesh. I have heard of the horse being kept almost entirely on hay, receiving corn only when he was to be used. I would recommend the owner to confine himself to bread and water for a week or two, and then try what work a beef-steak will enable him to do. There is a material difference between eating to live, and eating to work. The stomach and bowels will hardly hold sufficient hay to keep even an idle horse alive.

The only preparation which hay receives before it is given, is that of cutting it into chaff, into short pieces. When given uncut, the groom does, or should shake out the dust before he puts it in the rack.

HAY TEA.—An infusion of hay made by pouring boiling water upon it, and covering up till cool, has been recommended as an excellent nutritious drink for sick horses, and also for those in health. It might perhaps be a very good substitute for gruel; perhaps a quart or two of the tea might not be a bad thing for a racer, given between heats, and towards the end of the day, when the horse is beginning to get exhausted from fasting, but it has not been tried.

HAY-SEED.—In Scotland, and wherever the hay is made chiefly from rye-grass, the seed is often made use of in feeding. It is sometimes mixed with the oats to prevent the horse from swallowing them whole, but most generally it is given along with the boiled meat, either to divide it or to soak up the liquor. It contains more nutriment than the hay itself, but probably not a great deal, unless the hay

* The influenza I mean, was not at all similar to a disease which went under the same name at the same time in England. We had almost none of the English influenza till the last week of May 1837. In the month of June it was very prevalent.

has stood too long uncut. Some people say that hayseed is bad for the wind, but I have never been able to trace any evil to its use. There is always much dust mingled with it, and this should always be removed by washing. Sometimes the seed is boiled, and sometimes merely added to the boiled meat while it is hot. I do not know that boiling improves it, but it is much better liked after boiling or masking than in its raw state.

STRAW.—There are five kinds of straw used as fodder. I have not been able to learn that rye-straw is ever used as fodder in this country. Of the white kinds, wheat is supposed to be the most nutritious. Some, however, like oat-straw as well. Barley-straw is almost useless for fodder, and is not used when any other can be obtained. Pea-straw is better than that of beans, and it has been recommended as equal to hay, and I have no doubt but it is much better than some hay. Straw, however, is little used here. In many parts of Europe, wheat, barley, or rye-straw forms the whole or greater part of the dried herbage, hay being almost unknown. In some of the towns, wheat and oat straw are occasionally given to cart horses, and in some cases to coaching horses. In the country, both white and black straw are in common use as winter fodder for the farm horses. It is very probable that wheat-straw, and perhaps some of the others, may soon be used much more extensively than they are at present. Good straw is certainly better than bad hay, and possibly, by increasing the allowance of corn, and cutting the straw, hay might be almost entirely dispensed with. Though containing much less nutriment, it still contains some, and it serves quite as well as hay to divide the corn and give it a wholesome size. It must be understood that food ought to possess bulk proportioned in some degree to the capacity of the digestive organs. Nutriment can be given in a very concentrated state, yet it is not proper to condense it beyond a certain point. Corn alone will give all the nourishment which any horse can need, but he must also have some fodder to give bulk to the corn, though it need not of necessity yield much nutriment. Straw, therefore, may often be used where hay is used. This has been proved very fairly in this country. Mr. Mein of Glasgow kept his coaching horses in excellent order for nearly eight months, without a single stalk of hay. During dear hay seasons it is the custom, with many large owners, to make straw form a part of the fodder. Wheat straw is preferred, but few object to that of the oat.

But when horses are living chiefly on hay, as many farm horses do, during a part of the winter, it must not be supposed that an equal quantity, or indeed any quantity of straw, will supply the place of that of hay. The stomach and bowels will hardly hold hay enough to nourish even an idle horse, and as straw yields less nutriment in proportion to its bulk, enough cannot be eaten to furnish the nutriment required. The deficiency must be made up by roots or corn.

When much straw is used, part or the whole ought to be cut into chaff. It is laborious work to masticate it all, and in time it will tell upon the teeth, which in old horses are often worn to the gums, even by hay and corn.

Bean-straw is tough and woody, and horses soon get tired of it. But I am persuaded that it might be advantageously made into tea. Bean-straw tea is much esteemed as a drink for milk-cows, and if not found equally good for horses, no harm can be done by trying it. Pea-straw also makes very good tea, but the straw itself can be entirely consumed as fodder. The white straws seem to make a very weak

infusion. All the kinds of straw soon grow sapless and brittle. They should be fresh.

BARN-CHAFF.—The shell which is separated from wheat and oats in thrashing are often given to farm-horses. It seems to be very poor stuff. It looks as if it contained no nutriment, yet it may serve to divide the corn, to make the horse masticate it, and to prevent him from swallowing it too hurriedly. In this way it may so far supply the place of cut fodder. But the barn-chaff is usually mingled with the boiled meat, and if the articles be very soft, the chaff may give them consistence, but it does little more. The coving chaff of beans is said to form very good manger meat.

TO THE EDITOR OF THE MARK-LANE EXPRESS.

SIR,—Thinking a few remarks, Mr. Editor, would not be uninteresting to many of your agricultural readers, I thus venture to give them a sketch of the system as practised in the West of England, say Monmouthshire and Glamorganshire. The farmers, I am sorry to say, are most of them pursuing the same system as their fathers of old, and they feel very little inclination to pursue the most improved methods, as practised in the North and Eastern parts of England. The general system pursued in the above mentioned counties, is the following:—first year, wheat, second, barley, (most in general,) third clover, and fourth, wheat, so you will perceive they grow two crops of wheat in four years. The Turnip system is very little practised in this county, perhaps an occupation of three hundred acres of principally arable, and pasture would grow twenty acres of turnips, so that the stock are principally dependant upon *straw* and hay, for their wanted subsistence. They work here a vast many oxen, and always six at a plough, many of our large farmers work 18 *bullocks at three ploughs*, which would make many of the farmers stare in the more enlightened parts of England; but what renders the above more extraordinary, is, that where they work six bullocks at a plough, they work in the same field *only a pair of horses*, which do their work faster, and with a great deal more ease. Some of your readers will be inclined to say, the land is stiff, but it is not so, or how could two horses plough an acre per day. A working bullock, according to my calculation, will eat rather more than a quarter of a hundred cwt. of hay per day, which at 5s. per cwt., (the present price here,) is 1s. 3d. per day, and I think when a bullock costs over a shilling per diem, you must call it high feeding, and expensive work. Green food is out of the question in this country, farmers here grow a few tares for their cart horses, but nothing more, very many that I know do not grow a perch, well may we say “agriculture is in its infancy” I feel convinced, that persons possessed of capital, may in this country do wonders, that is to say they would grow at least a quarter more produce, provided they went upon the most improved system, say the four course shift, growing plenty of turnips, *green food for soiling*, and not sparing improvement. We grow but small crops in this country, and at tremendous expense, when we come to calculate, as we find all our men with victuals and drink, and generally lodging. We grow here from 15 to 25 imperial bushels of wheat per acre, barley from 28 to 38 bushels per acre, no peas or beans of any account are grown in this county. Labour is also dear, men’s wages from 5s. to 6s. per week, and their maintenance, bag men

from 10s. to 12s. with beer or cider. The manufacturers of tin and iron, in the hills in these counties are now so flourishing, that the farmers have great difficulty in procuring labourers, as the difference in wages is so great, that with the former, a man can easily obtain 15s. per week, and up to 30s. were a vast number of men are now wanted. I should hail with pleasure the formation of a *Farmers' Club* in the neighbourhood, but we have no persons of spirit, and I am sure, a vast deal of good may be done, if farmers would only unite, and stand up for their own interests, they have the power to do so, but not the spirit, they want rousing, at least in this part of the world, which is a century behind the "wise men of the east." In my humble opinion, we shall do no good till farms are let in a different way to the present, they should be let to be farmed upon the most improved system, be that what it may, and no deviation therefrom, unless subject to a penalty to be agreed upon prior to taking the farm, but till our large landed proprietors take the subject up, and enforce it, farming will be an *amusing*, but an *unprofitable* occupation.—I am, Mr. Editor, your's respectfully,
I.

ON MANURES, THEIR NATURE AND APPLICATION.

We give the name of manure to all substances which are applied to land for the purpose of increasing the crops we intend to cultivate, and we are satisfied that, by the application of manures to our land, greater crops are produced, until the strength of the manure be exhausted; and then we apply another quantity to keep up its productiveness without even inquiring into the nature of the manure which we apply, or the way in which it produces these effects on the soil.

The importance of manure to the farmer is such, that his success in the production of the crops he cultivates, will mainly depend on the quantity, and the application of it, to the crops he raises, as food for sheep and other stock; as those crops which are consumed on the farm are much more productive of an additional quantity of manure than the crops of grain, a great part of which is carried off the land.

Vegetable and animal matter in a state of decay or manure, is composed of carbon, oxygen, and hydrogen, as we have before stated, the elements of which are the elements of growing vegetables. "By the laws of chemical attraction, vegetable and animal manure are changed by the action of air and water, and made fluid or ariform." (Davy.) Vegetable and animal manure, when well mixed in the soil, gives to it the power of absorbing and transmitting moisture for the use of plants that grow in it; therefore improvement in some soils, and increased energy in others, will be given by the application of manure. The effects produced will continue much longer in some soils than others; in some it will be of long duration; in others, it will be transitory. The dung of animals kept on the farm with litter is the principal manure on which the farmer should depend, as he has it in his power either to increase or diminish it. Other manure he can have recourse to when an additional quantity is wanted. As straw and green crops are the foundation of manure, the increase of these raw materials is therefore of great importance with a view to future crops. When straw is left in the field as stubble we are deprived of one-fourth at least of the means of producing manures, we therefore see the propriety of collecting

all the straw which our crops produce, for the purpose of converting it into manure.

In the experiment we have made to ascertain the weight of a crop of straw, we find that the quantity of wheat straw will average double the weight of the wheat produced, so that if all the straw be converted into manure, by part of it being consumed by some animal as food, and the remainder as litter, it would with proper care produce manure sufficient to keep up, and with good culture increase, the productiveness of the soil.

The production of turnips, vetches, and clover, by a large proportion of the farm, and the consumption of these by sheep and oxen will, under almost every circumstance, produce a sufficient quantity of manure to keep the land in a highly productive state; and if sufficient attention be paid to this part of agricultural business, a much greater quantity of corn will result from it, even when a less breadth of land is sown to corn, and a greater proportion to turnips, vetches, and clover.

As manure is of such vital importance to the farmer, every attention should be paid to the collection of the materials necessary to form it; every vegetable substance, together with the waste earth of ditches, road sides, sides of the fields, yards, &c. will add to the compost heap, not only in quantity but also in quality, if proper care in the mixture be attended to.

Weeds of every kind will be available before they come to seed, or rather before they blossom, as the seeds of many of them are perfected before the blossom drops off; and it should be kept in mind that no fermentation in the dunghill will destroy the vegetative power of a single seed.

When vegetable matter is fermenting in a dunghill, it should be mixed and covered with earth, which will imbibe the volatile or gaseous matter that is thrown off during its fermentation; and if there be a large portion of animal manure in the compost, it should have a bed of earth to imbibe all the carbonaceous matter that runs from it: and on every turning over which we think it right to give the mass, we should add an additional quantity of earth to cover it with.

Much earth should be used in all dunghills, as the earth that is thus impregnated is nearly if not altogether as valuable as the dung itself, in altering and improving the soil to which it is applied.

But in these composts regard should be had to the nature of the soil to which we intend to apply them, for we should regard manure more as an alternative than as food for plants. A compost for a light soil should be formed of cold manure, the dung of animals which chew the cud, of clayey or tenacious earth, and the clearing of ditches or other water fed earths. The compost of strong tenacious soils should, on the other hand, be formed of hot manure, the dung of animals that do not chew the cud, such as horses and pigs. These should be mixed with light, sandy, or rubbly earth, the sides of roads, or sandy dry porous earth from rich yards or other places.

Road dirt, being the produce of stone reduced by friction, is of a gritty sandy nature, whatever be the nature and properties of the materials of which it is composed; and from its gritty quality it forms an excellent alternative for clayey soils, and when mixed with a large portion of horse dung it forms an excellent compost for all clay or strong soils, as it tends to keep the soil open and porous.

In Flanders great attention is paid to manure, particularly to the urine of animals and water that runs from the dunghill. These are collected and oil cake

dissolved in them, and they are drawn out in water carts and spread over the pasture land; or mixed with earth and formed into a compost, they become an excellent manure for turnips as well as pasture. An ox is said to make 12 cart loads of dung per annum, if fed on grass in the stall, and 1,400 gallons of urine. "The urine of 44 head of cattle, with the aid of 2,400 lbs. of rape cake, is sufficient to manure in the best manner 21 acres."

Manure should be always applied to fallows so early as to be well mixed with the soil before the crop is sown; it then combines with it not only mechanically, but chemically, and thus increases the powers of the soil to combine with the water and air, and decompose their substances from which plants receive their nourishment.

The whole of the manure, however, ought yearly to be applied to the production of those crops, which furnish food for animals kept on the farm; such as turnips, cabbages, potatoes, vetches, carrots, and clover for sheep, and oxen.

Meadow land should be manured soon after the crop of hay is carried off, and before the end of August. A compost with at least one-third of earthy matter in it is the best manure for meadow or pasture land; and the land should be pastured the year after manuring.

Ashes from burnt peat are used largely both in Berkshire and in Hampshire, as a top dressing for young clover: and have so great effect on the crop as to increase it perhaps fully one-fifth; 50 bushels is generally the quantity used, per acre, although more will have a greater effect. Ashes are had at Newbury in Berkshire at 3d. per bushel; this costs only 12s. 6d. per acre, and a day of a waggon, besides the spreading.

In the application of manure, the nature of the soil should be considered. If the soil be a strong clay, and very tenacious, the manure should be of a light, or loose porous nature, such as stable unfermented dung; and if a compost, it should be made of a light, sandy or porous nature; but if the soil is light and porous, the dung should be of a cold nature, well rotten cow or cattle dung.

Compost made of cattle dung and clayey loam, or any heavy tenacious substance, is the best manure for light land; long straw, or unfermented dung, as stable dung or any substances, which are loose and friable, should never be used on sandy soils.

Peat mixed with green dung and fermented, is formed into an excellent vegetable manure: the mode of doing this in the most perfect way is that recommended by Lord Meadowbank.

The principal artificial manures are bone-dust, soot, rape, and oil cake; these produce wonderful result on the turnip crop.—*Morton on Manures.*

ON POPULATION.

Having examined the question of redundancy of people in the British Islands, and shown, I trust the fallacy of such an opinion, I shall now advert to the proposed remedy by emigration. It is admitted that, whenever the period shall arrive, which however is for the present sufficiently remote, the only effectual remedy must be that of sending the superabundant consumers away, to make food for themselves in some other climes. It would probably be running too great a risk to depend on importation for the then deficient quantity. Clear it is, then, that the surplus consumers must either have food

brought to them, or that they must be sent to create it for themselves on other shores. But let us examine the present plan of emigrating people now, who are every way qualified to raise subsistence for themselves from the land here; indeed, here or abroad, they are equally capable in whatever way they may be directed. The locations to Canada have been much dwelt upon, as of vast importance to the well-being of the province, and of great comparative comfort to the individuals so located. In each respect this may be fairly admitted. The advantages are unquestionably great in both, and cannot be denied; but is it equally advantageous to the mother country? Does she benefit by the transit of her best labourers and their families, who are, in a great measure, lost to her immediate interests? I fear it is decidedly injurious to her interests, by weakening so much of her natural strength. If it be an advantage to possess a scanty, rather than an abundant population—if the real strength of the country be not in fact, its extent of population—if we can compete with other nations in time of war, with a population thus thinned, as well as if we had the emigrants all at home—why then, truly, to emigrate is beneficial and not injurious to the mother country also. As this, however, cannot, I should suppose, be contended for by any one, on such grounds, then the advantage of emigration will be nearly all on one side, and the gain of the colonies be, consequently, thus acquired at the loss of the mother country. Thus it is then, so far tolerably manifest that such emigration is not advantageous to the strength of the mother country. Let us see if it add anything material to her resources. Oh, it is said, the colonies belonging to the parent state must, if benefitted themselves, benefit also the parent state. The increased population will create increased consumption of home manufactures, employ a larger quantity of shipping, and, in short, contribute every way to the benefit and resources of the parent state. Taking it then in the most favourable point of view, let us see what is lost at home to secure the gain abroad. The same parties here would have been quite as sure to consume as much as they would do abroad, having the same means. They would have done so at less cost, and a less fluctuating return, and no loss by exports or imports, nor of time, nor dangers of the seas. They never could have ceased being consumers at home, though they might abroad have got supplies from some other country, without special prohibition. If prohibited to their loss to benefit the mother country in any considerable degree, then it is possible that a separation might ensue; and thus all advantageous intercourse be at an end, at least for a time, and ultimately other nations let in to participate in this our trade and profits. These things are all possible. They are not very improbable. Such a course has already been pursued by the American States, now no longer colonies of Great Britain. But at home, as is before stated, none of such contingencies could by any possibility happen. The labourers kept at home always consume at home, and if kept in comfort increase, instead of diminishing the consumption. But at home there are only waste lands to be cultivated—poor lands not worth the trouble or the expense of cultivation, that won't yield a profit for capital so employed. In one view of the subject, this may be all very true: A and B, by employing paupers largely on waste lands, may not procure adequate returns for their money and philanthropic exertions, although a mighty mass of human misery may be relieved, and a large quantity of additional food for them be produced. Though as things are just at present circumstanced, A and B

may lose money, no man in his senses will hesitate or doubt that the district, the immediate neighbourhood, the portion of the country within the sphere of their exertions, will be benefitted, and manufacturers will be benefitted, for those employed there will become consumers of clothes as well as of food. Let us try figures again. Take only one thousand for example. Now one thousand hats, coats, waistcoats, &c., is a pretty good order to be given, say once a year; but, as it is clear that the one thousand men can easily produce more food than they will consume, and every year make their land better, it is not, perhaps, assuming too much to say, that they will then double their order, and have all the aforesaid articles twice a year. A and B's loss, then (for I take it so to try the question), is the gain of the country, of the manufacturers; and to the poor men so employed the difference is immense. Well but A and B all this time are losers. The land does not pay. Admit this for one, two or three years, even then, let me ask, what did the land pay before? What did A and B pay before, indirectly, towards the maintenance of all or a portion of those one thousand paupers? What was paid, not casually, but permanently; annually, and not in a diminishing, but rather in an increasing scale, and what hope of a change for the better? These are very fair questions—they are quite pertinent to the subject in hand—they should be fairly and ingenuously answered. I think I know what the true answer would amount to in the fair way of putting the question. That, in truth, A and B, the immediate apparent losers, would in the course of a very few years, have the balance in their favour. Still I am free to admit this is not an experiment on a large scale, for A and B to make, but I do contend that it is an experiment that ought to be made, and without any loss of time. Let us return, however, to the point of emigration and now see the vast difference in the process from that already proposed. Take Canada where the pauper labourers commence operations, not on a cultivated soil, but on the waste lands of that country. They have to make food out of it. They have to go on in precisely the same course assumed for the labourers at home. Oh, but the land in Canada is so much richer, and will yield so much better and quicker a return! Be it so; then, instead of arguments, I will advert to facts. This will save time and bring us probably sooner to the right conclusion. In page 416 of the Report on Emigration, it is stated that 254 persons were, in 1826, located in Newcastle and Bathurst. These 254 persons cleared 245 and a half acres in one year. The produce 8,251 bushels of potatoes, 4,175 bushels of turnips, 1,777 bushels of Indian Corn, 80 bushels and three quarters of wheat, 1,159 (whether bushels or not I know not,) of maple sugar, made in spring; and that the 254 persons had purchased by themselves 11 oxen, 18 cows, and 22 hogs. Taking all the bushels together 15,443, and dividing by 245 acres, it is 63 bushels an acre nearly. Now, contrast this with the many thousand places in this country where a produce as valuable, perhaps, might have been had from a similar number of acres—and where is the mighty advantage? Observe, these 254 persons are previously furnished with all means needful for their operations, and this is the result of the experiment for one year. There is one adjunct, viz., the ague during the summer to add to their comforts. Take another instance of 135 located in the township of Smith at the same time. They cleared 113 acres and a quarter—produce, 4800 bushels of potatoes, 1,550 of turnips, 637 of Indian corn, 40½ of wheat, 839 of maple sugar; and they purchased six oxen, seven

cows, and twenty-one hogs. Here we have seventy bushels to the acre, and these parties too, had the ague during the summer. The cases taken are simply in the order of the evidence, the first and second. Take them all, they come nearly to the same thing, and what do they prove? What would probably be proved at home in the same way. The general summary of the whole, indeed, is as follows:—1845 persons located in 1826, who cleared 1386½ acres of land, which produced 67,799 bushels of potatoes, 25,623 of turnips, 10,438½ of Indian corn, 363½ of wheat, 9067 of maple sugar, who purchased 40 oxen, 80 cows, and 166 hogs. Thus we have in the aggregate 80 bushels of produce to an acre. A Canadian gentleman proves by his opinion, that an absolute pauper family, with an allotment of 50 acres of good land, would be enabled to pay the money advanced for subsistence, &c. at the end of seven years. I ask whether such a family in England, Scotland, or Ireland, would not be able on the same terms to do the same on 25 acres, or even the half of that number? Emigration then, thus conducted—and I know not that it could be altered for the better; it appears of necessity so to conduct it—affords no adequate relief to the immense number of poor labourers, of all classes, now unemployed. It is a more expensive remedy than home location, and in its issue never can be so certain in the beneficial consequences to be derived from it, as by employing the same parties here, upon the same principles, with the same adequate means, and for the same probable period of repayment of the money expended.—*Burn's Letters on Population.*

ARTICLES USED AS FOOD FOR THE HORSE.

(From the Veterinarian.)

We make another extract from Professor Stewart's "Stable Economy," a work that will ere long be in the hands of every veterinary surgeon and horseman. It affords a fair sample of the general knowledge, and that of a very interesting kind, which may be obtained from this summary of horse management. The author had been describing the different kinds of green and dry herbage used in our own and foreign countries. His distinction between good and bad, and old and new hay—his account of heated and musty, and weather-beaten and salted hay, is exceedingly valuable, as is his computation of the proper quantity allowed to each horse, differing according to its quality, and the proportion of other substances allowed, and also the description and work of the horse. He states, very impartially, the relative value of potatoes and turnips, carrots and mangel wurzel, and that differing according to various circumstances; then, having compared the quantity and kind of nutriment afforded by wheat, barley, and oats, and given a very full account of the varieties and qualities, and good or bad effects of the last of these substances, he proceeds to speak of other articles of food, not so much known or constantly used in our country.

BUCK-WHEAT, or brank, is hardly known in this country. It is used on the continent, and the horses are said to thrive on it. Young says, that a bushel goes farther than two of oats, and that, mixed with at least four times as much bran, one bushel will be full-feed for any horse for a week. The author of the "Farmer's Calendar" thinks that

he has seen it produce a stupifying effect; and Bracy Clark says it appeared to him to be very laxative. In Holland, and many parts of Germany and Norway, it is made into a black bread, with which the horses are fed.

MAIZE, or INDIAN-CORN, is much used as a horse-corn in America, and in various parts of Europe. Cobbett recommended its introduction; and, among its other uses, spoke of horse-feeding. I do not know that it has been tried sufficiently to determine whether it might be used with advantage during a scarcity of other corn. Probably it ought to be boiled and mixed with chaff; but horses eat it greedily when raw. Bracy Clark says it is apt to clog the stomach, and affect the feet in such a singular way that the hoofs frequently fall off when the horse is on a journey. He alludes to founder; but seems ignorant that any kind of corn, when improperly given, will produce the same effect. Perhaps maize does it more readily.

RYE is very generally employed as horse-corn in North America. It is coarsely ground, and sprinkled over straw and clover chaff, previously wetted, by which means the whole mass is well incorporated; mastication also is so much assisted, that no part is wasted, and the condition of the carriers' horses on the roads in Pennsylvania, where they are universally fed in this way, and are seldom lodged in a stable, proves the excellence of the practice.

Rye is also used in Germany, but generally in the shape of bread, being made from the whole flour and bran: and it is not unusual, in travelling through some parts of that country, and of Holland, to see the postillions help themselves and their horses from the same loaf.*

BEANS.—There are several varieties of the bean in use as horse-corn, but I do not know that one is better than another. The small plump bean is preferred to the large shrivelled kind. Whichever be used, the beans should be old, sweet, and sound. New beans are indigestible and flatulent; they produce colic and founder very readily. They should be at least a year old. Beans are often ill harvested; and when musty or mouldy, though quite sweet internally, horses do not like them. They are often attacked by an insect which consumes much of the flour, and destroys the vitality of the rest. The ravages of the insects are plain enough. The bean is excavated, light, brittle, and bitter tasted. A few in this state may do no harm; but when the beans are generally infected, it is not likely that they are eaten with impunity, and very often the horse refuses them altogether. Damp, musty, ill-kept beans, though old, are as flatulent as those which are new. All kinds are constipating.

Though in very general use for horses, beans are not so extensively employed as oats: according to the chemists, they contain much less nutriment; but in practice it is universally allowed that beans are much the strongest of the two. The comparison, however, is almost always made in reference to a measured quantity. A bushel of beans is, beyond all doubt, more nutritious than a bushel of oats; but it is questionable whether a pound of beans is stronger than a pound of oats. Beans weigh about sixty-three pounds per bushel; and if given in an oat measure, the horse may be getting nearly double allowance. This, I am persuaded, often happens; and hence arise those complaints about the heating, inflammatory nature of beans. The

horse becomes plethoric; the groom says the humours are flying about him. It is very likely that he would be in the very same state if he were getting an equal weight of oats.

If beans do not afford more nutriment, weight for weight, than oats, they at least produce more lasting vigour. To use a common expression, they keep the stomach longer. The horse can travel farther; he is not so soon exhausted. I remember," says Nimrod, "hearing Mr. Hoare exclaim, as his hounds were settling to their fox, 'Now we shall see what horses eat old oats, and what eat new.' I am inclined to think that this distinction may be applied to horses that eat beans, and those that eat none; for they help to bring him home at the end of a long day, and support his strength in the run." I believe Nimrod is quite right. In the coaching stables, beans are almost indispensable to horses that have to run long stages. They afford a stronger and more permanent stimulus than oats alone, however good. Washy horses, those of slender carcass, cannot perform severe work without a liberal allowance of beans; and old horses need them more than the young. The quantity varies from three to six pounds per day; but in some of the coaching stables the horses get more, a pound of oats being deducted for every pound of beans. Cart horses are often fed on beans, to the exclusion of all other corn; but they are always given with dry bran, which is necessary to keep the bowels open, and to ensure mastication. Beans are not in general use for race horses, but are sometimes given to bad eaters. They are usually split and hulled, which is a superfluous process. For old horses they should be broken or bruised. Some horses will not eat beans. The Irish horses when first brought to this country always refuse them; they invariably pick out the oats and leave the beans. It does not appear that they dislike them, for after they begin they feed as well as other horses. Ultimately, they seem to discover that beans are for eating, although it is often a long time ere they make the discovery.

The horse, however, may soon be taught. Let him fast for an hour beyond the feeding-time, and then give him *half* a ration of beans without oats. If he still reject them, offer them split or broken, or moisten them, and sprinkle a little oatmeal over them, sufficient to make the beans white. If he still demur, put another horse, a hungry one, beside him, and he will soon teach his ignorant neighbour.

Bean-meal, or flour, is sometimes added to the boiled food; but it is oftener given in the water, to cure the staling-evil.

BREAD.—In former times it was customary to feed horses with bread, and the statute-book is said to contain several acts of Parliament relating to the manner of making it. Gervase Markham, a very old author, says, "horse-bread, which is made of clean beans, clean peas, or clean fitches, feedeth exceedingly." It is not many years since a bread composed of wheat, oats, barley, and beans, ground and mixed in varying proportions, was used in the racing-stables. The bread was well baked, and given when sufficiently old to crumble down and mingle with the corn. Eggs and some spices were sometimes introduced in making it. Nothing of the kind, so far as I know, is now used in this country. In different parts of Europe bread forms the customary corn of the horses. A French periodical of 1828, mentions an agriculturist "who fed his horses with a bread

* British Husbandry, vol. i, p. 146.

composed of thirty bushels of oatmeal, and an equal quantity of rye-flour, to which he added a portion of yeast, and nine bushels of potatoes reduced to a pulp. With this bread he kept seven horses, each having twelve pounds per day in three feeds. It was broken into small pieces, and mixed with a little moistened chaff. He had fed his horses in this way for four years. Previously he had used oats, hay, and straw-chaff. The translator says he saved forty-nine bushels of oats in twenty-four days. But this is nonsense, for he had only seven horses. I take the quotation from "The Farrier and Naturalist," a dead journal.

The Magazine of Domestic Economy is not much better. The February number for 1837 tells us, that one ton of oats made into bread yields more nutriment than six tons of the raw article, and that in Sweden this has been proved by experience. It has never been proved in Scotland, and I dare say it never will. It is true, however, that a bread composed of oatmeal and rye, in equal quantities, has long been used for horses in Sweden. It is broken down and mixed with cut straw. It is in common use over different parts of Germany. I cannot learn any particulars as to the mode of making, nor of the quantity given, nor of the horse's condition. In France, many attempts have been made to produce a bread that would wholly or partially supersede oats, which seem to be comparatively precious on the continent. Buck-wheat, rye, barley, wheat, and potatoes, have been tried in varying proportions, and, according to several accounts, with success. But it does not appear very distinctly why these articles should be converted into bread, which is a costly process, rather than given raw or boiled. It is, indeed, alleged, that some of the constituent principles are not digestible until they have undergone fermentation; and it may be so, but no proof is shewn that I have seen.*

LINSEED in small quantities, either whole or ground, raw or boiled, is sometimes given to sick horses. It is too nutritious for a fevered horse, but it is very useful for a cough, and it makes the skin loose and the coat glossy. Half a pint may be mixed with the usual feed every night. For a cough, it should be boiled, and given in a bran mash, to which two or three ounces of coarse sugar may be added.

OIL-CAKE, ground and given in the boiled meat, when not very rich, consisting chiefly or entirely of roots, is much stronger than bran, and stronger, perhaps, than oatmeal seeds. Two to four pounds per day is the usual allowance. It makes the hair glossy. Horses seem to tire of it soon, but the farmer will find it useful for helping his horses through the winter.

HEMPSEED used to be given to racers a few days before running. It was supposed to be invigorating and "good for the wind." I believe it is not now employed, except occasionally to stallions, during the travelling season. Some give four or six ounces every night.

SUGAR.—Mr. Black, veterinary surgeon to the 14th Light Dragoons, informed me that sugar was tried as an article of horse food during the Peninsular war. The experiment was made at the Brighton dépôt, upon ten horses, during a period of three months. Each got eight pounds per day

at four rations. They took to it very readily, and it was remarked that their coats became fine, smooth, and glossy. They got no corn, and only seven pounds of hay instead of the ordinary allowance, which is twelve pounds. The sugar seemed to supply the place of corn so well, that it would probably have been given to the horses abroad. But peace came; and the circumstances which rendered the use of sugar for corn desirable, ceased. The horses returned to their usual diet; but several of those who were the subjects of this experiment became crib-biters.

That the sugar might not be appropriated to other purposes, it was slightly scented with asa-fœtida, which did not produce any apparent effect upon the horses.

FRUIT, as gourds, and sweet potatoes, in America; figs and chesnuts in Spain and Italy; apples in some parts of France; and numerous other fructified exotics are occasionally employed as food for horses.* *Horse chesnuts*, it is said, would probably form a valuable article of medicinal food for horses. In Turkey the nuts are ground, and mixed with other food; and they are regarded as a remedy for broken wind, and serviceable to horses troubled with coughs.†

Haws, the fruit of the hawthorn, have been employed by West, of Hampshire, as an article of food for farm horses, with what profit I have not learned. "The people of Medjid feed their horses regularly on dates. At Deyrach, in the country of the Flassæ, dates are mixed with the clover. Barley, however, is the most usual food in all parts of Arabia.‡

FLESH.—The structure of the horse does not seem adapted to the assimilation of animal food. But some seem to have no dislike to it; and it is well to know that it may, to a certain extent, supply the place of corn. I have seen them lick blood repeatedly and greedily. Bracy Clark says he has seen a well-attested account in a magazine, of a colt that was in the habit of visiting a pantry-window which looked into his paddock, and of stealing and eating mutton, beef, veal, and poultry. Pork he seemed to reject. In the East Indies, meat boiled to rags, to which is added some kinds of grains and butter, is made into balls, and forced down the horse's throat.—*Carpenter's Introd. to the Wars of India*. Also sheep's heads, during a campaign, are boiled for horses in that country.§

"While at the stable of Mr. Mellings, of Wakefield, the groom would let me see a flesh-eating horse. He brought about a pound of roasted beef and as much raw bacon, which he warmed. I took away the horse, while the groom put the meat in one corner of the manger, and a feed of oats in the other. I put in the horse and directed his nose to the corn; but he darted from that to the bacon, which he greedily devoured. He then ate his corn. The groom said this horse would finish the bone of a leg of mutton in a few minutes, and that roasted meat was his favourite dish.¶ The wealthy people of Medjid frequently give flesh to their horses, raw as well as boiled, together with all the offals of the table. I knew a man at Hamah, in Syria, who assured me that he had often given his

* Blaine's Vet. Outlines, p. 94, London, 1832.

† Comp. Grazier, p. 529, 1833.

‡ Comparative View of the past and present State of the English Racer. *Hookham*, 1834.

§ Clark, Pharmacop. Equina, Lond. 1833.

¶ The Veterinarian, vol. v, p. 25. Letter from Mr. Garland, V.S. Wakefield.

* See the Recueil de Med. Vétérinaire, Février 1837 et Janvier 1834; Mem. de l'Académie, 1772; Les Annales d'Agriculture Française, 1826; and Le Journal des Haras, tom. ii, p. 184.

horses washed meat after a journey, to make them endure it with greater facility. The same person related to me that, apprehensive of the governor of the town taking a liking to his favourite horse, he fed it for a fortnight entirely on roasted pork, which raised its mettle to such a height that it became absolutely unmanageable, and could no longer be an object of desire to the governor.

FISH.—“In Ireland it is stated by Buffon, that dried fish is made the food of horses; and my friend, William Bullock, senior, lately informed me he saw them in the same practice in Norway.”*

EGGS are sometimes given to stallions in the travelling season, for exciting desire, and to other horses for producing a smooth coat. They are quite useless for either purpose, at least as they are given, only one or two at a time. If they are to do any good, the horse would need a dozen of them, or thereabouts, I should think. One or two, however, can have no good effect. The egg is chipped, *starred* as they call it, all round, and given raw, like a ball.

Several, many horses have been lost by the egg sticking in the throat and producing suffocation. If eggs must be given, let them be broken and mixed with a mash, or boiled hard and added to the corn. But I see no need of them in any shape.

MILK.—In this country milk is not used as an article of food for grown-up horses. Occasionally it is given to stallions in the covering season. A mash is made of milk, bran, and oil-cake, ground; and in Ayrshire, whey is frequently given to stallions as a drink. It is supposed to be “amatory food.” The Arabs, in traversing the Desert, are said to give their horses camel's milk, when forage fails. Major Denham, speaking of some horses he met with among the Tiboos, says—“two of them were very handsome, though small; and on remarking their extreme fatness, I was not a little surprised to learn that they were fed entirely on camel's milk, corn being too scarce and valuable an article for the Tiboos to spare them. They drink it both sweet and sour; and animals in higher condition I scarcely ever saw.”†

commend the flock-masters to adopt the following method of shearing the wool of lambs, which we conceive would prove beneficial to himself and advantageous to the stapler, and manufacturer, as wool so managed, would become more valuable, and at the same time would meet a more ready sale. First, to extract from the legs of the animal all the hairy parts of the wool which cannot be applied to any useful purpose in the woollen manufactory; secondly, to shear off that which grows on the breech and tail, and to keep it apart from the rest; and lastly, when these inferior qualities of wool are removed, the shepherd may then proceed to shear the residue, and will be thus rendered a useful and saleable article, and might be sold by sample; in short, this process would give a facility to the sale of the wool, which can only be justly appreciated by those who are conversant with the article.

It is customary for many of the flock-masters in Sussex, (more especially for those who reside on the South downs) to clip the wool of their lambs about the month of June, by merely shearing off the extremities of their fleeces, and by so doing the lambs appear of a larger size, and in better condition than when completely divested of their fleeces. To this practice they are doubtless prompted from a desire of giving their lambs a more advantageous appearance to those who annually resort thither for a fresh supply of that justly celebrated breed of sheep; at the same time, it should be borne in mind by those who purchase lambs thus shorn, that their wool will be much less valuable at the succeeding shearing season, than that produced from unshorn lambs, because the latter will become teg wool, (if suffered to remain until next year's shearing season,) and the fleeces weigh a fourth more than the produce of those animals whose wool has been clipt; and besides it will also become more valuable by 4d. or 5d. per lb., arising from its being adapted for combing purposes, whereas, the wool which has been clipt becomes stunted in growth, lighter in weight, and consequently less valuable.

The flock-master may perhaps enquire what is to be done with that part of the lamb wool which is of an inferior quality. Let the collector or stapler take it at the best price he can afford, and charge him an adequate advance on the lamb wool thus improved, by which means both parties would be benefitted.

COTTAGE ALLOTMENTS.

TO THE EDITOR OF THE GLOBE.

ON THE IMPROVEMENT OF BRITISH WOOL.

The following observations on English lamb's wool will probably be read with interest by the generality of flock-masters, and more especially by those who continue the custom of shearing the wool of their lambs.

It is obvious to a common observer, that the wool of a lamb three or four months old is of unequal quality; that of the back and sides being very superior to what is grown on the hinder parts of the legs and tail, and that which grows on the shanks of the animal is mere hair; yet, it has been customary to shear off the whole of these various qualities, and intermix them together, although it must appear evident that wool so mingled together, cannot afterwards be properly divested of the hairy particles which grow about the hocks of the animal, but will remain and re-appear when the flannels and other articles to which the wool is applied, is in a state of manufacture. We may further add, that a considerable expense is necessarily incurred by the process of re-assorting, which at the customary charge of the wool sorter of 6s. per day, consequently enhances the value of the wool. To avoid these objections, we would re-

Sir,—In taking a ride a short time since through the county of Kent, I was much pleased with a system which has been adopted in many parishes in that county, of letting small allotments of land to industrious cottagers for the employment of their leisure time; the quantity to each is in general about one rood, at the same rent as given by the farmers. In some places societies have been formed by the principal inhabitants for the adoption and encouragement of this system, the effects of which are very cheering. The tenants are subject to certain rules, such as attending a place of public worship on the Sabbath, cultivating their ground by spade husbandry, punctual payment of their rent, and the loss of their ground if convicted of poaching, thieving, or any offence of the kind, which rules have been found useful.

In conversing with some of the tenants, they told me they found great benefit from having the land, as is produced them sufficient vegetable for their family the whole of the year, besides some to spare, to help on with their pig, which being killed at Christmas, was a very great addition to their stock of provision, which is worth them altogether, during the year, from seven to eight pounds. Annual meetings are held during the year by the different societies, by whom prizes are given to the best cultivators. In the course of my observations I could discover some very great benefits arising from the system, which were not told me by the cottagers.

In one field there were nearly fifty men, women, and

* B. Clark, Pharm. Eq.

† Denham's Travels in Africa.

children, cheerfully cultivating their ground, who possibly would have otherwise been spending their time and money at some beer house in contracting some idle dissolute habits. Another thing was the early age at which children could be made acquainted with the nature and culture of those vegetables which form so great a part of their daily food, and I observed there was work for all the family—one to dig, another to plant, and another to finish off the work, which, with the abundance of manure laid on the ground, always ensured them a good crop, which at the end of the year they received with great joy, as the just reward for their industry. Sincerely hoping that this system may soon spread far and wide—I remain, Sir, yours most respectfully,

A FRIEND TO THE LABOURING CLASSES.

THE ENGLISH AGRICULTURAL SOCIETY.

GREAT MEETING.

On Wednesday, May 9, a numerous meeting was held at the Freemason's Tavern, consisting of some of the first men in the country of all shades of political opinions, for the purpose of forming a new Agricultural Society, to be called the English Agricultural Society—the distinguishing feature of which is the exclusion of politics from its proceedings. The room was crowded to excess, and amongst the noblemen and gentlemen present were, the Duke of Richmond, Earl Spencer, Lords, Amherst, Braybrooke, Chichester, Eliot, Hatherton, Tweedale, Oxmantown, Littleton, Portman, Raleigh, Stradbroke, and C. Russell; Sir Robert Peel, Bart., M.P., Sir James Graham, Bart., M.P., Sir E. Knatchbull, Bart., M.P., Sir H. Vane, Bart., M.P., Hon. B. B. Baring, M.P., Sir E. Wilmot, Bart., M.P., Hon. A. Duncombe, M.P., E. A. Sandford, Esq., M.P., R. A. Slaney, Esq., M.P., Col. Sibthorpe, M.P., E. S. Cayley, Esq., M.P., H. C. Sturt, M.P., J. H. Calcraft, M.P., W. Miles, Esq., M.P., E. W. Pendarves, Esq., M.P., Captain R. Eaton, M.P., J. W. Childers, Esq., M.P., Alderman Copeland, M.P., P. Pusey, Esq., M.P., E. Wodehouse, Esq., M.P., C. S. Lefevre, M.P., W. Williams, Esq., M.P.

A few minutes after one o'clock, the Duke of Richmond moved that Earl Spencer, do take the chair, which his lordship did amidst general cheering.

The CHAIRMAN said that they had met here to-day, in consequence of an advertisement which he would read to them. (*Hear, hear.*) His lordship then proceeded to read the following advertisement:—

“THE NEW AGRICULTURAL SOCIETY. The undermentioned Noblemen and Gentlemen having observed the great advantages which the cultivation of the soil in Scotland has derived from the establishment and exertions of the Highland Society, and thinking that the management of Land in England and Wales, both in the cultivation of the soil and in the care of woods and plantations, is capable of great improvement by the exertions of a similar Society, request that those who are inclined to concur with them in this opinion, will meet them on Wednesday, the 9th of May next, at the Freemasons' Tavern, at one o'clock, to consider of the means by which such a Society may be established, and of the Regulations by which it shall be governed.

“It is suggested that the Society shall be called ‘The English Agricultural Society,’ and that it shall be one of its fundamental laws, that no Question be discussed at any of the Meetings which shall refer to any matter to be brought forward, or pending in either of the Houses of Parliament.

“It is also suggested, that the Society shall consist of

two Classes of Subscribers,—the one to be called Governors, subscribing annually £5; the other Members, subscribing annually £1, either the one or the other to be permitted to become Governors or Members for their lives by the payment in one sum of the amount of ten annual subscriptions.

“Gentlemen wishing to subscribe to this Institution will be good enough to send their Names and Addresses to the Editors either of *The Mark Lane Express*, or of *Bell's Weekly Messenger*, specifying whether they wish to become GOVERNORS or MEMBERS, and whether they wish to subscribe Annually or for Life.

Duke of RICHMOND.
Duke of WELLINGTON.
Earl FITZWILLIAM.
Earl SPENCER.
Earl of CHICHESTER.
Earl of RIPON.
Earl STRADBROKE.
Marquis of EXETER.
Lord PORTMAN.
Lord WORSELEY, M.P.
Hon. ROBERT CLIVE, M.P.
Hon. BINGHAM BARING, M.P.
Hon. C. CROMPTON CAVENDISH, M.P.
Sir ROBT. PEEL, Bart. M.P.
Sir JAMES GRAHAM, Bart., M.P.
Sir FRANCIS LAWLEY, Bart., M.P.
Sir WATHEN OWEN PELL, Bart.
Lieut.-Gen. Sir E. KERRISON, Bart., M.P.

EDW. BULLER, Esq., M.P.
R. A. CHRISTOPHER, Esq., M.P.
JOHN BOWES, Esq., M.P.
H. BLANCHARD, Esq.
W.T. COPELAND, Esq., M.P.
J. W. CHILDERS, Esq., M.P.
WILBRAHAM EGERTON, Esq.
RALF ETWALL, Esq., M.P.
H. HANDLEY, Esq., M.P.
C. SHAW LEFEVRE, Esq., M.P.
WALTER LONG, Esq., M.P.
WM. MILES, Esq., M.P.
JOS. NEELD, Esq., M.P.
E. W. W. PENDARVES, Esq., M.P.
PHILLIP PUSEY, Esq., M.P.
E. A. SANFORD, Esq., M.P.
R. A. SLANEY, Esq., M.P.
J. A. SMITH, Esq., M.P.
R. G. TOWNLEY, Esq., M.P.
W. WHITEHEAD, Esq.
HENRY WILSON, Esq.

Now he begged to call their attention to the fact that there was no political object whatever to be connected with this society, as must be evident from the names which he had read, varying as they did in political opinions and feelings. (*Cheers.*) They had done him the honour to place him, (Lord Spencer) in that chair, he felt it to be a great honour, and attributed it to be the knowledge he possessed of the subject, the wish he had to form this society, and the steps he had taken for the purpose. (*Cheers.*) He would tell them the reason why he wished the formation of this society, and that was the great benefits Scotland had derived from the Highland Society established there some years ago. Agriculture in Scotland fifty or sixty years ago was very inferior to that of England, but such was no longer the case, and now although there might be individual farms in England as well cultivated as those of Scotland, there was no tract of country (*A voice*—“*Yes Norfolk!*”)—in England equal in this respect to Scotland generally. True, Norfolk was very good, but only portions even of Norfolk were as well cultivated as those he alluded to. (*Hear, hear, and Cheers.*) The improvement in Scotland, was mainly attributable to the exertions of the Highland Society. (*Cheers.*) There were other causes for this besides the operations of the Highland Society, but that was undoubtedly the greatest in producing the effects mentioned. (*Hear.*) No one who looked about him among the farms of England but must see that there was capacity for the greatest improvement. (*Hear.*) It was found in precisely similar soils the results of the same plans were the reverse in different instances. Some ploughed with four horses, some with only two, some use drill, and some the broad-cast, these points were self-evident, whether to practical farmers or not, and showed the necessity of the diffusion of knowledge among the farmers. (*Hear.*) Now by establishing a great and powerful society, containing,

among its members, persons, from the east, west, north and south, the knowledge of the best mode of cultivating land, might be diffused among all the farmers of the kingdom. By the exertions of this society, combined with science and practice, they would be able to produce the best cultivation that existed. It was scarcely necessary to advance arguments to prove that such a society is desirable. (*Cheers.*) Now the best mode of carrying their object into effect seemed to be to establish such a society in this metropolis as a centre with powers to correspond with every part of the kingdom, and with such foreign countries as have applied themselves to the study of agriculture. (*Hear, and cheers.*) It is by the diffusion of agricultural knowledge, and distributing this in a cheap form that the greatest good may be done. Besides agricultural exhibitions in every part of the country for the sake of exciting interest in the subject, meetings should be held in every part of the country for the exhibition of stock. In order to make the effect more powerful in funds and influence, and in order to do good, it would be necessary for men of all parties to unite and act together. (*Cheers.*) And for men of all parties thus to unite politics must of necessity be excluded. (*Hear, hear.*) For this reason they had suggested as a fundamental rule of this society, that nothing shall be discussed which shall refer to any matter to be brought forward or pending in the Houses of Parliament. (*Cheers.*) This was the only mode of excluding politics, because without this regulation they would creep in and they could not expect to do any good unless politics were excluded. (*Loud cheers.*) There were some it appeared who differed from them in this respect, and it appeared that a meeting was held last night, which passed resolutions to the effect that the projected society was delusive in principle, having a tendency to mislead and betray the English Agriculturist, the principle of protection to the British farmer being disavowed. (*Laughter and partial cheering.*) By this the principle of protection was not disavowed. Nothing of the kind. (*Hear.*) He did not object from others stating their objections to what they proposed doing, and if they could prevent persons from joining them, but they would at least allow them (the framers of the Society) who believed they were doing good to form their Society. (*Hear and laughter.*) The other party might state their objections if they thought they were going to do mischief, but they certainly and undoubtedly as Englishmen had a right to form any Society they pleased which was legal. Conceiving that it was not necessary for him to say more in opening the business of the day he should now sit down. The noble earl resumed his seat amid loud and general cheering.

The DUKE OF RICHMOND then rose and said the only apology he had to offer for rising thus early was that his name had been placed at the head of the requisition for the meeting to be held here this day. He had ever thought it a matter of the greatest importance that the agriculture of the country should endeavour to profit by the discoveries of science and the improvements of various kinds, which from time to time take place. (*Hear, hear.*) One gentleman had stated that the farms in Norfolk were as well cultivated as those in Scotland. This very fact he thought showed the necessity of their Society, for in neighbouring counties agriculture was not improved at all. (*Hear and cheers.*) Because, the great body of farmers were not aware of the system practised in Scotland, and consequently not able to avail themselves of it. (*Cheers.*) The Highland Society of Scotland was held in universal popularity and re-

spect among the landholders. But they never thought of discussing politics, men of all parties and all politics, met together on neutral ground to discuss the great interests of agriculture. (*Cheers.*) Would they then prevent gentlemen from meeting on this neutral ground and making those improvements in agriculture, which were so desirable and so valuable? Much had been done in Scotland by irrigating, by reclaiming waste lands and by draining. More had been done within the last twenty years than for a very long period previously. They also gave premiums by which they stimulated the humbler agriculturists to improve their small allotments and small gardens. This was not an experiment which they asked them to try, for the experiment had already been tried by the Highland Society, and had met with perfect success. (*Loud cheers.*) He now begged to propose the first resolution, which was to the following effect. "That it is the opinion of this meeting that an Agricultural Society be formed for England and Wales, and that it be called, 'The English Agricultural Society.'"

MR. HANDLEY, M. P. rose to second the resolution. He said the observations which had fallen from the noble earl, who filled the chair, and from the noble duke beside him (Richmond), rendered his task an easy one in this respect, that he need not dwell long on the advantages which must accrue to society from the formation of such an institution as that now proposed. (*Hear.*) He attributed the flattering partiality which had been shown him in thus calling upon him to second this resolution, to his having exerted himself with zeal when authorized by Lord Spencer and the Duke of Richmond in behalf of the proposed society, two names well known and respected by the agriculturists of England. (*Cheers.*) He had but to name and found willing converts. He proceeded to remark on the importance of the application of science to agricultural proceedings as well as a knowledge of the analogy of soils, the nature of manures, the food of plants, an acquaintance with the insect tribes, the diseases of plants, of sheep and of cattle; and although the veterinary art had made some progress, they were yet he considered ignorant on many points, and in the case of disease in the pig, he believed there was no remedy but the knife. (*Laughter and cheers.*) The establishment of a Society of this nature was the best mode of accomplishing the objects in view. Inventions in manufactures were made known and applied to the welfare and happiness of mankind, although the results of individual skill and individual exertion. (*Cheers.*) But there was a wide difference between farming and manufactures. (*Hear.*) So long as one farmer did as well as his neighbour, he thought he did all that was required of him. (*A laugh.*) Disseminating information was perhaps, the most valuable property the society would possess. (*Cheers.*) He knew lands that twenty years ago were rabbit warrens or sheep walks, which by the application of bone dust manure, had been brought into wheat land of the finest quality. He hoped this Society would be the recipients and the means of disseminating useful and practical information into all parts of the country. He seconded the resolution with much pleasure, feeling it unnecessary he should say any more, than that he felt confident, that it would be productive of more good than he in his most enthusiastic moments had ever anticipated or hoped. (*Cheers.*)

MR. BELL immediately rose and said, before the resolution was put from the chair, he wished to put an amendment to the effect that the Society was delusive in principle. (*Great confusion—cheers from a*

small section, and disapprobation from the meeting generally.)

The CHAIRMAN submitted to the gentleman who wished to move the amendment, that it was a proposal that no Society should be established, and any gentleman who voted for that, could not concur with the requisition published, and those only were invited who should concur in the formation of the proposed Society. (*Cheers.*)

MR. BELL admitted this, but trusted that he, as the representative of a large body of farmers, would not be denied the privilege of an English farmer of stating his reasons against the proposed Society. (*Laughter and cries of "Order."*) It had been stated that Scotland owed much to the Highland Society, and no farmer wished to deny that it had done much. But he should be disposed to suggest that Scotch farmers possessed many advantages altogether disconnected with such a Society as that proposed. The Scotch farmer was tithe free, and had nothing, or comparatively nothing to pay in poor rates. (*Applause and disapprobation.*) The Scotch farmer, had also the privilege of the circulation of one pound notes, and gentlemen around the Chairman would not deny, that the Scotch farmer (from whose skill he did not desire to detract), had the advantage of the English market. (*Cries of "and have'n't you," and considerable confusion.*) The Scotch farmer produced his crops under prodigious advantages, and sent them without any countervailing duty to the English markets. He proceeded to argue that the union of men of all parties by the exclusion of politics promised nothing to the British farmer, or at least was of very questionable value. It had been said that the Society does not disavow the principle of agricultural protection. If in the requisition there was no express disavowal, it was expressly stated that farmers who joined the Society should not state their grievances if they spring from political causes. There was a disavowal of all political feeling, but could his lordship suppose that gentlemen more or less would not inoculate the mass of their members? (*Cheers from a section and disapprobation from the great body of the meeting.*) He alluded to the names of Mr. Handley, M.P., and Mr. Shaw Lefevre, M.P., whom he described as having abandoned their principles in the House of Commons, with regard to the farmers. Mr. Bell having proceeded at some length with his arguments against the society, and having at length become somewhat tedious he was called to order.

MR. BLANCHARD submitted that Mr. Bell was out of order.

The CHAIRMAN said, undoubtedly he was, as touching upon matters irrelevant to the subject before the meeting; he had hesitated to interrupt him however, and the more so, because he thought his speech was calculated to strengthen theirs. (*Loud laughter and cheers.*)

MR. BELL still persisted in addressing the meeting.

MR. ELMAN rose to order, and as a British farmer disavowed the sentiments expressed. (*Cheers.*)

MR. BELL said he had been requested to attend here, on behalf of a considerable body of farmers, who disapproved of the formation of such a society. On being asked where he lived, and whether he was a farmer, and having replied "in London," and "no" to the questions, he sat down amidst the derisive laughter of the majority of the meeting.

MR. BENNETT could not believe that the farmers of England were so ignorant of their own business, as to employ any gentleman not a farmer, to state their cause for them. He never would admit that the farmers of England, intelligent, and honourable as he

knew them to be, would employ an advocate to come and attempt to put down a society which was about to be formed for their advantage. (*Cheers.*) He felt that farmers were much in want of information. (*Hear.*) He was a farmer of forty years standing, and felt his own ignorance deeply. (*Hear and cheers.*) He deeply deplored that there was no mode of applying science to agriculture. (*Cheers.*)

MR. BELL said, he was an advocate, as he undoubtedly was—at least, he was an unfeared advocate (*Laughter and uproar.*) To him it mattered nothing one way or the other, except, in so far as he pretended to love the agricultural interests of England. (*Cheers.*) This gentleman was again proceeding with his arguments against the establishment of the society, when he was once more called to order, and,

The CHAIRMAN said, a great number of noblemen and gentlemen had come to this meeting to-day, who would not have come, if they had thought that politics would be discussed. (*Hear.*) He would tell them candidly that he (Lord Spencer,) for one, would not have come (*cheers,*) and he felt it his bounden duty, to prevent this gentleman from proceeding any further. (*Cheers.*)

MR. ALLNATT then rose, and said it had been objected to his friend on the right, (Mr. Bell,) that he was not a practical farmer. But allow him to say that he represented a considerable interest in the local county of Berks. (*Laughter.*) He (Mr. A.) came to offer his feeble opposition to what they were about to do. He held it to be advisable and proper to encourage and protect the British farmer, but at present, he was surrounded with foes (*Laughter and partial cheering.*) who would destroy his interests, and reduce him to penury and beggary. (*Oh, oh, and ironical cheering.*) It was well therefore, as it was just, to encourage the British farmer, and not be forgetful of his interests. He then proceeded to make some unworthy remarks, at the expense of cattle fattening, and talked of fat bullocks dying of apoplexy, intended doubtless, as a sneer at the noble, and excellent chairman, and loud cries of "Order, order, and chair." He complained of the interruption, and said he had a right to be heard at a public assembly.

The CHAIRMAN interposed.—He did not think this was a public assembly, (*Hear, hear.*) It was an assembly of persons called together, who should concur in certain principles. If the gentleman did not concur, he had no business at the meeting. (*Cheers.*)

Some further interruption took place, upon which MR. ALLNATT said he should go back to Berkshire and tell the farmers that he had been refused to be heard. (*Laughter.*)

The CHAIRMAN had not the slightest objection that he should go back and say, that Lord Spencer refused to hear him, but he, (Lord Spencer) was known to the farmers and they would form their own estimate of the statement. (*Cheers.*)

MR. ALLNATT.—Do you object to my proceeding?

The CHAIRMAN.—I do object to Mr. Allnat coming to a meeting called for a certain object and endeavouring to prevent us from doing what we deem beneficial. (*Cheers.*)

The Duke of RICHMOND rose and said, they would perhaps allow him the privilege of a few words, in reply to the objections which had been taken.—(At this moment some one called out "Every independent farmer is going to leave the room.") (*Laughter and cheers.*)—His Grace continued—Then I will wait till they have done so. (*Cheers.*)—[A knot of some dozen persons, including Mr. Bell, Mr. Allnatt, Mr. Broun, the honorary Secretary of the Central Society,

and Mr. Eagle, the Barrister, then left the room, and unanimity marked the rest of the proceedings.]

The Duke of RICHMOND resumed. He would not follow the representations of the professed farmers of England, who when it came to be inquired into were found to come from a local association. (*Cheers.*) He said nothing in disparagement of that or any local association, and far be it from him to attribute motives, and as the parties had now left the room it would not be necessary or proper for him to say much. An allusion had been made to certain gentlemen abandoning their principles; but he defied any man to accuse him of having done so, from the time that he had a place in the House of Commons up to the present time. (*Cheers.*) In reference to the evil of allowing political discussion to get into their proceedings, they could not have a stronger proof than the scene that had been witnessed here to-day. (*Loud cheers.*)

The CHAIRMAN then put the resolution, which was carried unanimously.

Sir ROBERT PEEL, Bart., M.P., next rose and said, that since he came into the room he had been most unexpectedly called upon to move the second resolution. When he said unexpectedly, he did so with perfect sincerity, for he had formed such a moderate estimate of his limited knowledge of agriculture that he considered himself safe from being called upon to discharge any prominent duty connected with the proceedings. As the proposition, however, had been made to him, the same motives which induced him to attend the meeting induced him also to give it a ready acquiescence. (*Hear, hear.*) He could say with truth that he had postponed the performance of public duties in order to attend there that day. (*Cheers.*) He had postponed those duties readily in consequence of the deep interest which he took in the prosperity of agriculture, from the belief that there were other than mere political considerations involved in that question. (*Cheers.*) It was not merely increase of agricultural produce, for they had for their object as well the elevation of the British farmer and the improvement of the condition of the British labourer; and if they succeeded, as no doubt they should, they would confer incalculable moral and social benefits upon the country. (*Loud cheers.*) He called upon the meeting to support the resolution which he had the honour to propose, because he heartily concurred in the object of it; but they had rather inverted the order of proceedings which prevailed in another assembly, and in which he sometimes took a part—(*laughter*)—for their whole discussion had taken place upon the subject of the resolution before the resolution itself was moved. The right hon. gentleman then read the terms of his motion, which was to the effect—“That it should be one of the fundamental laws of the Society that no question should be discussed at any of the meetings which referred to any matter to be brought forward or pending in either of the Houses of Parliament.” The simple questions that arose upon this resolution were whether benefit was likely to arise from the establishment of the institution, and, if formed, whether it was necessary to attach to it, as had been expressed by some of the speakers who preceded him, a political aspect. (*Hear, hear.*) For his own part, he believed that the establishment of the institution would be productive of the most important benefits to agriculture; but he also believed that all those benefits would be forfeited, and a great evil entailed on the agricultural interest, by allowing the Society to assume a political character. (*Loud cheers.*) He had an intimate conviction that there was no occupa-

tion to the purposes of which great capital was devoted, so important as that of agricultural enterprise; and he might add, there was none in which there appeared to be greater room for improvement. (*Hear.*) He did not entertain that impression from the slightest disrespect for the character or intelligence of the British farmer, for he could see, in the force of circumstances and the national situation of things, sufficient reasons why he should be behindhand in the application of new discoveries as means of agricultural improvement. (*Hear.*) A gentleman, who argued in opposition to the institution of this Society, had stated as the reason for doing so, that the Society were advising the farmers to turn experimentalists. (*Hear.*) Now, if it were admitted that the application of science to agriculture could improve it, and also admitted that the farmers were too poor to carry that improvement into effect themselves, was it not a conclusive reason why an assembly of rich men interested in the progress and success of agriculture should combine for the purpose of affording to the poor the benefit of new discoveries? (*Loud cheers.*) Allusion had been also made to the absence of tithes and poor-rates in Scotland, and to the English market being thrown open to Scottish produce, as operating favourably to the agriculturists in Scotland; but he would ask, what had the meeting to do with the consideration of those things? Were not the English markets open to the English farmers equally with the Scotch? (*Hear, hear.*) If there are burdens on the lands of England not applicable to Scotland, was that a just reason why they should not attempt to improve the system of farming? (*Hear, hear, and cheers.*) Why, every reason he had heard that day adduced in opposition to the society had only tended to strengthen his conviction that the project possessed the elements of the most extensive benefits. (*Cheers.*) It would be a connecting link between the highest and the lowest agriculturists, and so far from estranging the landlords from their tenantry, the former would find it their true interest to extend a liberal indulgence to the latter. (*Loud cheers.*) Indeed, he did not hear it even attempted to be denied that great benefits would accrue from the institution of the society, nor was the admission withheld that much useful improvement would be effected by the application of discoveries in chemistry and other sciences to purposes of agriculture. (*Hear, hear.*) If, as had been argued, the increase of produce was an injury—(*laughter*)—why that was an evil which would occur whether they had the home market open to them or not—(*cheers and laughter*)—or whether they made politics an essential ingredient in the composition of the society. (*Hear.*) He concurred with the noble duke next him, that the scene which they that day beheld was a sufficient warning that no harmony could exist where the introduction of politics was allowed. (*Hear, hear.*) If the names of members of Parliament who were supposed to be hostile to the interests of the agriculturists were to be introduced in the manner they had been; if they were to establish a convention to sit in London, supported by ramifications throughout the country, and undertaking to discuss every measure that might be passed or introduced into the Legislature, they might prepare themselves to see other conventions arise, to see the manufacturing interests arrayed against the agricultural, and to behold every improvement sacrificed to mere political objects. (*Loud cheers.*) They would find that in a short time they would degenerate into a mere debating society, alienating from the agricultural interest many of its warmest friends and supporters. (*Hear.*) On the other hand, if the society

were established upon neutral ground, they might depend upon it that a community of sentiment would spring up with regard to agriculture amongst persons of the most adverse opinions upon other subjects; and should any measure hostile to its prosperity be attempted, their strength would not be weakened by the exclusion of politicians. The right hon. gentleman concluded by proposing the second resolution.

E. S. LEFEVRE, Esq., M.P., seconded the resolution. It was his misfortune to differ in political sentiments with the right hon. bart. who had proposed it, but he rejoiced that some neutral ground had been at length discovered, on which they could meet, free from all party difference. (*Cheers.*) After dwelling upon the advantages which would be derivable from a society of this kind, he concluded by seconding the resolution which was put and carried unanimously.

Sir J. GRAHAM, Bt., M.P., said, that after the length of time which had been consumed in the early part of the meeting, and the eloquent speeches they had heard, it would be impertinent in him (Sir J. Graham) to detain the meeting long; but unless he had, relying on the good judgment of the British farmer, supposed their plan would be adopted unanimously, or by a large majority, he should not have attended. (*Hear.*) He was an old member of the Highland Society of Scotland; he lived on the borders of that country, and he could say without vanity, that it was to the exertions and influence of that society that Scotland—not bountifully blessed by nature, but sterile in soil, and of a climate not genial—owed its great progress in agriculture. (*Hear.*) Well-directed industry had there triumphed over all natural disadvantages. (*Cheers.*) He also alluded to the fact of politics being religiously excluded from the proceedings of that society, and he quite agreed with what had been said on that subject in reference to this society. The Chairman had pointed out the necessity of having the metropolis as a centre; he attached great importance to the ambulatory nature of the Highland Society. The hon. bart. proceeded to dilate upon the advantages of a large number of persons being brought together from various parts of the country, and thus communicating their knowledge to each other on different subjects; said he was most happy to become a member of this society, and thought that as they had taken for their example a society which had been in existence many years, the more nearly they adhered to that example the more likely they were to succeed. (*Cheers.*) His right hon. friend Lord Stanley was unavoidably prevented from being present at this meeting, being obliged to attend a Committee of the House of Commons, but had requested him (Sir J. Graham) to say that he wished to become a member of their new society. (*Cheers.*) He then proposed the third resolution:—"That the Society should consist of two classes of subscribers; the one to be called governors, subscribing annually 5*l.*; the other members subscribing annually 1*l.* Either the one or the other to be permitted to become governors or members for their lives by the payment in one sum of the amount of ten annual subscriptions."

ALD. COPELAND, M.P., seconded the resolution.

Mr. WEBB HALL objected to the distinction between the words governor and member. He thought it would act as a reflection upon the tenantry of the country, who must be the smaller subscribers, and this ought not to be the case. It had been said by a forcible writer, that whoever should make two ears of corn or two blades of grass grow on ground where they had not grown before, was of more use to mankind than the whole race of politicians together. He

looked upon this Society as a sort of pic-nic in which the tenantry of the country would bring the substantial, although nobles might bring the silver spoons. He therefore moved as an amendment that the word governor be omitted, and the word member be substituted.

The CHAIRMAN disavowed any intention of casting a slur upon the tenantry. Those who proposed the distinction were farthest from the wish of doing anything to insult that respectable body. (*Cheers*) It did require large pecuniary resources to set the Society going, and without them they would not succeed. (*Hear*) They might have received a large capital by donations. But there was this difficulty:—If they allowed unlimited sums to be given, some eager to distinguish themselves by giving large sums, would render others ashamed to put down their names for the sums which they would otherwise give, and consequently put down nothing. (*Hear.*) Under these circumstances, they had proposed that there should be governors, wishing to give people, by that means, the opportunity of increasing their funds, and thus enable them to establish their Society; while, if they had confined all the subscribers to one pound, it was doubtful whether their funds would have been adequate for their purposes. If, however, they found their means should be greater than they expected they would be, there would be then little objection to the alteration proposed. (*Hear, hear.*)

REV. J. R. SMYTHIES had experienced in the case of the Hereford Infirmary the advantage of the distinction proposed in the resolution. (*Hear.*) Whenever the friends of that Charity cast their eyes upon a respectable man, whom they thought disposed to assist him, they immediately elected him a governor of the Institution, and thus secured his subscription. (*Laughter and cheers.*) He gave his testimony to the necessity of such a Society as that proposed. He had seen much of farming in this country and on the continent, and gained much information by his travels, but still there was much that he could wish to learn. Its establishment augured the utmost amount of good to the cause of the agriculture of the country.

Mr. WEBB HALL, after a short discussion had taken place, withdrew his amendment, as the Chairman and most present appeared to wish it.

The CHAIRMAN then put the original resolution, which was carried unanimously.

Earl FITZWILLIAM proposed the next resolution, and pointed out the advantages which must result from this Society, and the ambulatory nature of its meetings, in different parts of England and Wales. They must be well aware of the existence of the British Association, an institution in which he had taken much interest, and having been present at many of their meetings he could bear testimony to the advantage of this mode of proceeding. Indeed he thought they could not follow a better example. (*Hear.*) He should venture to suggest as a question to be hereafter considered whether some sort of union might not be beneficially formed with that Society, and thus obtain the means of drawing scientific information from them, and at the same time give that Society practical knowledge on a subject which was just as much a branch of science as chemistry, botany, or any other science to which the name was exclusively given. (*Cheers.*) He had no doubt as to the prosperity of the Society, because great ignorance prevailed as to the general resources of the soil of England, which when better understood would be rendered capable of much greater productions than at present. (*Hear, hear.*) If they did not have an actual union with the British Society it

would at least be desirable to have some sort of connection with them by which the usefulness of both might be increased. There were many soils which, although they appeared the same on the surface, were widely different from each other, their character being entirely changed by the substrata or under-soil. (*Hear, hear.*) The noble Earl concluded by proposing the resolution, "That with the view of effecting the objects of this Society the annual meetings be held successively in different parts of England and Wales."

P. PUSEY, Esq., M.P., seconded the resolution, which was carried unanimously.

The Earl of CHICHESTER moved the fifth resolution, namely, that a Committee be appointed to form rules and regulations, and that a meeting be held at this place (Freemason's Tavern) on the 27th June, to receive the same. Although born and bred in the country he regretted to say he was not a practical farmer. He trusted, however, that he felt the great importance which attached to an institution of this kind, not only as beneficial to the agricultural interest, but to the country at large. (*Cheers.*) He believed and had long felt that a society of this kind was required to make the discoveries of science available to the general use of the farmers throughout the country. (*Hear.*) Were this only an experiment, which it was not, he should still hail it with great pleasure. When they considered that farming was essentially a scientific matter, and remembered how little time the farmer had for experiments or scientific pursuits, it must be evident how useful a society must be which should make known to him what at present it was very difficult if not impossible to obtain. (*Cheers.*) He promised his support to the Society, and concluded by moving the resolution.

E. S. CAYLEY, Esq., M.P., seconded the resolution. Although excluded from introducing politics here, farmers would still have the privilege of meeting together if they pleased, and discussing any measures in Parliament which affected their interests, a privilege which he held they had a perfect right to exercise. (*Cheers.*)

The CHAIRMAN put the resolution which was agreed to.

Lord PORTMAN proposed the sixth resolution. He stood there in the position of a working farmer who was always about his own house, looking after his farm and doing the best he could to fatten his cattle. He was, therefore in some measure, competent to speak on this subject. (*Cheers.*) He had witnessed the advantage of even a very little knowledge as applied to agriculture and was well aware of its importance. (*Cheers.*) In a certain part of Somersetshire there was a large gypsum rock, the application of which to clover lands would be of great advantage, although by the farmers of the neighbourhood it was supposed to be good for nothing but the formation of figures of the kind the Italians carried about the streets and for which use some of it is occasionally carried away; (*hear*) if one thing was more valuable to the farmer than another it was the vicinity of such a rock. (*Cheers*) Nothing was so valuable to a clover field as an occasional dressing of gypsum. (*Hear, hear.*) After stating that he had himself, for the sake of giving employment to a few poor labourers in his own neighbourhood, brought some waste land into a high state of cultivation, and had the happiness of reaping, thrashing, and selling ten sacks of wheat per acre from it, his lordship concluded by moving the resolution, seconded by Sir F. Lawley, Bart.

E. A. SANDFORD, Esq., M.P., moved that Messrs. Drummond be the bankers of the society.

I. BARNEY, Esq., M.P., seconded the motion, which was at once carried.

Sir FRANCIS LAWLEY, Bart., M.P., seconded the motion with a few brief observations, and it was carried with the same unanimity as all its predecessors.

The CHAIRMAN then announced to the meeting that he had received a letter from the Duke of Wellington regretting his inability to attend the present meeting, and inclosing a subscription of 50*l.* (*Cheers.*)

Lord ELIOT, as a farmer of a considerable agricultural district in Cornwall, moved the thanks of the meeting to Earl Spencer for his conduct in the chair. (*Cheers.*)

W. MILES, Esq., M.P. seconded the motion, which having been put to the meeting by the Duke of Richmond, was carried by acclamation.

The CHAIRMAN returned thanks, and the meeting separated.

ENGLISH AGRICULTURAL SOCIETY.

FREEMASON'S TAVERN, MAY 9TH.

EARL SPENCER IN THE CHAIR.

Proposed by the Duke of RICHMOND, seconded by HENRY HANDLEY, Esq., M. P. :—

RESOLVED, That it is the opinion of this Meeting that a Society be established for the Improvement of Agriculture in England and Wales; and that it be called the "ENGLISH AGRICULTURAL SOCIETY."

Proposed by Sir ROBERT PEEL, Bart., M. P., seconded by C. SHAW LEFEVRE, Esq., M. P. :—

That it be a fundamental law of this Society, that no question be discussed at any of its meetings, of a political tendency, or which shall refer to any matter to be brought forward or pending in either of the Houses of Parliament.

Proposed by Sir JAMES GRAHAM, Bart., M. P., seconded by Alderman COPELAND, M. P. :—

That the Society shall consist of two classes of Subscribers. The one to be called *Governors*, subscribing annually *Five Pounds*; the other, *Members*, subscribing annually *One Pound*; either the one or the other to be permitted to become *Governors* or *Members* for their lives by the payment in one sum of the amount of ten annual subscriptions.

Proposed by Earl FITZWILLIAM, seconded by P. PUSEY, Esq., M. P. :—

That with a view to effect the objects of the Society, annual meetings be held successively in different parts of England and Wales.

Proposed by the Earl of CHICHESTER, seconded by E. S. CAYLEY, Esq., M. P. :—

That a Committee be appointed to frame rules and regulations for the government of the Society, to appoint its officers, and to report to a General Meeting of the Subscribers to be held on the 27th day of June in London. Three to be a quorum.

Proposed by Lord PORTMAN, seconded by Sir F. LAWLEY, Bart. :—

That all at present *Governors* and the following *Members* with power to add to their numbers, compose the

said Committee, and that they meet here at 12 o'clock to-morrow :—

Baring, Hon. Bingham, M.P.	Long, W. Esq., M.P.
Barker, Raymond, Esq.	Marshall, C., Esq.
Blanchard, H., Esq.	Morton, J., Esq.
Boys, Esq.	Moreton, Hon. H. A., M.P.
Bowes, J., Esq., M.P.	Morgan, Sir C., Bart.
Bridport, Lord	Miles, W. Esq., M.P.
Buller, E. Esq., M.P.	Neeld, J. Esq., M.P.
Cavendish, Hon. C. Compton, M.P.	Paterson, J., Esq.
Challoner, Colonel	Peel, Sir R., Bart., M.P.
Chichester, Earl of	Pell, Sir W. Owen
Childers, J. W. Esq., M.P.	Pell, E., Esq.
Christopher, R. A., Esq., M.P.	Pendarves, E. W. W., Esq., M.P.
Clive, Hon. R., M.P.	Phillips, J. Beuler, Esq.
Copeland, W. T. Esq., M.P.	Portman, Lord
Cross, W. J., Esq.	Pusey, P., Esq., M.P.
Egerton, Wilbraham, Esq.	Richmond, Duke of
Ellman, J., Esq.	Ripon, Earl of
Ellman, T., Esq.	Rusbridger, J. W., Esq.
Etwall, R. Esq., M.P.	Sadler, W., Esq.
Exeter, Marquis of	Sadler, H., Esq.
Fitzwilliam, Earl	Sandford, E. A., Esq., M.P.
Graham, Sir James, Bart., M.P.	Slaney, R. A., Esq., M.P.
Green, Esq.	Smith, J. A., Esq., M.P.
Hall, Geo. Webb, Esq.	Smith, J., Esq.
Halsted, T., Esq.	Smith, W. Esq.
Handley, H., Esq., M.P.	Smythies, Rev. J. R.
Hillyard, C., Esq.	Spencer, Earl
Ide, J. Esq.	Stradbroke, Earl
Kerrison, Lieut-Gen., Sir E., Bart., M.P.	Tattersall, J. Esq.
Jodrell, Sir R., Bart.	Townley, R. G., Esq., M.P.
Kinder, John, Esq.	Verney, Sir H., Bart.
Knight, Gally, Esq., M.P.	Weeding, Thos., Esq.
Lawley, Sir F. Bart., M.P.	Wellington, Duke of
Lefevre, C. S., Esq., M.P.	Whitbread, W., Esq.
	Wilmot, W. W. Esq.
	Wilson, H., Esq.
	Wood, J., Esq.
	Worsley, Lord, M ^{rs} P.

Proposed by E. A. SANDFORD, Esq., M. P., seconded by J. BARNEBY, Esq., M. P. :—

That Messrs. Drummond be appointed Bankers to the Society, who will receive subscriptions.
(Signed) SPENCER, CHAIRMAN.

Proposed by Lord ELLIOT, M. P., seconded by W. MILES, Esq., M. P. :—

That the thanks of the Meeting be given to Earl Spencer, who has so ably presided on the present occasion.

Pursuant to the resolution of the Meeting on the 9th, the Committee then appointed held its first meeting at No. 5, Cavendish Square, on the following day, Thursday, May 10,

EARL SPENCER IN THE CHAIR,

When the following resolutions were passed :—

- I. That this Society consist of a President, Twelve Vice-Presidents, Governors, and Members.
- II. That the Society be under the Management of a Committee, consisting of the President, Vice-Presidents, and fifty Subscribers, to be elected at the Annual Meetings, of whom twenty-five shall go out annually by rotation ; but may be re-elected, and that all Governors have the power of attending all meetings of the Committee, but shall not have the privilege of voting, unless forming a part of such Committee.

III. That the President be elected annually, and that no person who shall vacate that office be eligible to be re-elected in the same capacity for three years.

IV. That the General Meeting be held Annually in London in the month of May.

V. That all Elections of Officers take place at the Annual Meeting.

VI. That Earl Spencer be now elected President.

VII. That Wm. Shaw, Esq., be appointed Secretary.

VIII. That the following Noblemen and Gentlemen be requested to act as Trustees of the Society.

Clive, Hon. Robert, M.P.	Northumberland, Duke of
Grafton, The Duke of	Peel, Sir Robert, Bart., M.P.
Graham, Sir James, Bart., M.P.	Richmond, Duke of
Handley, H. Esq., M.P.	Spencer, Earl
Lawley, Sir Francis, Bart., M.P.	Sutherland, Duke of
Neeld, Joseph, Esq., M.P.	Wellington, Duke of

IX. That any person setting down his Name, and paying his Subscription on or before the 27th of June next, may become a member of this Society, and that subsequently all Members be elected by the Committee.

X. All Subscriptions are to be paid in advance, and for the future to become payable on the 1st of January in each year.

XI. That Subscriptions may be paid into all Country Bankers, who are requested to receive and pay them into Messrs. Drummond and Co.

The Committee then adjourned to Saturday, May 12.

ENGLISH AGRICULTURAL SOCIETY.

ADJOURNED MEETING, SATURDAY, MAY 12.

EARL SPENCER IN THE CHAIR.

The following resolutions were passed :—

- I. That no Member be entitled to vote on or after the 27th June next, whose subscription is not paid up.
- II. That the President and Vice-Presidents be elected from the Governors.
- III. That the First Quarterly Meeting be held on the 27th June, at No. 5, Cavendish Square, at which time the General Meeting will also be there held.
- IV. That it be the object of this Society,
 1. To embody such information contained in Agricultural Publications, and in other Scientific Works, as has been proved by practical experience to be useful to the cultivators of the soil.
 2. To correspond with Agricultural, Horticultural, and other Scientific Societies, both at home and abroad, and to select from such correspondence all information, which according to the opinion of the Society is likely to lead to practical benefit in the cultivation of the soil.
 3. To repay to any occupier of land, who shall undertake at the request of the Society to try any experiment how far such information leads to useful results in practice, any loss that he may incur by so doing.
 4. By the distribution of Prizes, and any other modes of expending a part of the Resources of the Society, to encourage men of Science to exert themselves in the improvement of Agricultural Implements, the improved and economical construction of Farm Buildings and Cottages, in the application of Chemical Know-

- ledge to the Food of Plants, and in the suggestion of means for the destruction of insects and animals injurious to vegetables, and for the eradication of weeds.
5. By the same means to promote the discovery of new varieties of Grain, and other vegetables useful to Man, or for the food of Domestic Animals.
 6. To pay attention to any suggestions, which may be made for the proper Management of Woods, Plantations, and of Fences; and apply every other mode, which may appear advisable to improve the general Resources of the Country in its rural concerns.
 7. To take such measures as may be deemed advisable to improve the Education of those who may intend to make the Cultivation of the Soil the means of their livelihood.
 8. To take measures for improving the Veterinary Art, as applied to Cattle, Sheep, and Pigs.
 9. At the Meetings of the Society, which shall take place in different parts of the Country, by the distribution of Prizes, and by other means, to encourage the best and most advantageous mode in which Farms may be cultivated in the neighbouring districts, and to give Prizes to the Owners of Live Stock, which are deemed best calculated to produce profit in their respective localities.
 10. At the same Meetings, by the same means to encourage Labourers in the improved management of their Gardens, and in general, to promote their Comfort and Welfare.

The Committee meets at No. 5, Cavendish Square, every Wednesday, at Twelve o'clock, to transact the current business of the Society; where all Communications should be addressed, post-paid, to the Secretary, Wm. Shaw, Esq.

LIST OF SUBSCRIBERS TO THE ENGLISH AGRICULTURAL SOCIETY.

The Subscribers marked thus * are Governors, thus †* are Life Governors, and thus † Life Members; all others are Members only.

†* Acland, Sir T., Bart., M.P.	* Cayley, Sir G., Bart.	* Goodrick, Sir F., Bart. M.P.	* Kenyon, Rt. Hon. Ld.
* Adeane, Henry John	* Challoner, Colonel	†* Kerrison, 'Lieut. Gen.	†* Kerrison, 'Lieut. Gen.
* Alston, Rowland, M.P.	Chapman, T.	Sir Edw. Bart., M.P.	Kilson, Rev. H.
* Alston, R. Gardiner	Chapman, G.	Goring, Charles	Kimberley, W. G.
* Amherst, Lord	†* Chichester, Rt. Hon.	Gorringe, J. P.	* King, Rt. Hon. Lord
†* Angerstein, J. J.	Earl of	Gorringe, Mrs. J. P.	* Knatchbull, Rt. Hon.
†* Antrobus, Sir E., Bart.	†* Childers, J. W., M. P.	Gowing, E.	Sir Edw., Bart., M.P.
Arbuthnot, Rt. Hon. C.	†* Christopher, R. A., M. P.	Grace, Rev. H. T.	Knight, H. Gally, M.P.
†* Archdeekne, E.	* Clay, W., M. P.	†* Graham, Rt. Hon. Sir J., Bart., M. P.	* Lansdowne, The Most Noble Marquis of
* Bagge, W., M. P.	†* Clive, Hon. R., M. P.	* Grafton, His Grace the Duke of	†* Lawley, Sir F. Bart.
* Baker, J. W.	Cook, Otho	Graham, Rev. H. G.	†* Lefevre, C. Shaw, M.P.
Barber, R.	†* Copeland, Ald., M. P.	Grantham, Stephen	Lemon, Sir C., Bart., M.P.
†* Barclay, C.	Cormack, William	Grey, W. H. C., F.R.I.S.	* Ley, J. H.
†* Barclay, David	Cormack, Wm. John	Grimshaw, W.	Livesey, Thomas
†* Baring, W. B., M. P.	* Crompton, Sam., M.P.	Hall, Geo. Webb	†* Long, Walter, M.P.
* Barker, George	†* Cure, Capel	Halsted, Thomas	* Lyon, James
* Barker, J. Raymond	†* Curteis, E. B.	†* Handley, Henry, M.P.	* Marshall, Capt. Henry
* Barker, Thomas R.	* Curtis, W.	* Handley, W. F.	Marshall, W., M.P.
Barnard, R.	* Dacre, Rt. Hon. Lord	* Hatherton, Rt. Hon. Lord	* Melbourne, Rt. Hon. Viscount
†* Barneby, Jno., M. P.	†* Davenport, E.	Hayward, Drinkwater	†* Miles, P. J.
* Beach, Sir M. H., Bt.	David, Evan, Esq.	* Heathcoat, J., M.P.	†* Miles, W., M.P.
* Bevell, J.	Denison, W. J., M. P.	* Heathcoat, Sir W., Bart., M.P.	* Milne, Alex.
* Blachford, Osborn	Dixon, R. W.	†* Heneage, E., M.P.	* Moore, Rev. H.
* Blake, —	* Downshire, the Most Noble Marquis of	†* Herbert, Hon. Sidney	†* Moreton, Lord
Bland, W.	Drury, George	Hewer, Jasper	* Moreton, Hon. Augustus H., M.P.
†* Blanchard, H.	†* Egerton, T. W.	Hewitt, Lieut., R.N.	* Morgan, Sir Ch., Bart.
†* Bowes, J., M. P.	* Eliot, Lord, M. P.	* Hewett, W. H.	* Morton, John
Boys, Henry	Ellman, John	Hillyard, Clark, Esq.	†* Morrison, J.
Boys, —	Enys, John Samuel	Hobbs, Wm. Fisher	Mount, Wm.
Bouverie, Edward	* Essex, Right Hon. Earl of	* Hodges, T. Law, M.P.	Neale, H. St. John
* Bramston, T. W., M.P.	†* Etwall, R., M. P.	Hodson, W.	†* Neeld, Joseph, M.P.
* Braybroke, Ld., M. P.	* Euston, Earl, M. P.	Hodson, —	Noakes, —
* Bridport, Lord	Evans, W., M. P.	Holmes, Wm. Sanderfoot	North, Frederick
Bremwell, Rev. R.	†* Exeter, Most Noble Marquis of	Honey, Rev. J.	†* Northumberland, His Grace the Duke of
Brookes, J.	†* Fitzwilliam, Rt. Hon. Earl	Hoskins, K., M.P.	* Nurse, Wm.
* Bruges, W. H. L., M.P.	Flight, Thomas	†* Howick, Rt. Hon Viscount, M.P.	Ogle, Henry
Budd, Capt. H., R. N.	Flounders, B.	* Hulse, Sir C., Bart.	Oliver, Wm.
†* Buller, Ed., M. P.	* Freeman, W. P. Williams	* Hurst, R. H., M.P.	†* Pagden, —
* Buller, T. Wentworth	Gardner, Rev. Chris.	Hurst, —	* Palmer, R., M.P.
†* Bunbury, Sir H., Bart.	Gibbon, Alex.	Ide, John	Parkes, J. W. H.
* Burke, French	Gibbs, Humphrey	†* Ilchester, Rt. Hon. Ld.	* Patten, Wilson, M.P.
* Burlington, Rt. Hon. Earl of	Gidley, Charles, R. N. (Commander)	Jodrell, Sir Paul, Bart.	† Patterson, W. S.
Caldecote, R. M.	Gooch, Sir T., Bart.	Johnson, Sir F., Bart.	†* Peel, Rt. Hon. Sir R., Bart., M.P.
Calverley, T.		Johnson, Rev. Dr.	* Pegus, Rev. W.
†* Cambridge, H. R. H. the Duke of		Johnson, C. W.	
Capper, —			
†* Cavendish, Hon. C. Compton, M. P.			

† Pell, Sir W. O.	Ridgway, J.	Stace —	Webb, Wm.
†* Pendarves, E. W., M.P.	* Ripon, Right Hon.	† Stanley, Right Hon.	Webster, Lady
Peppercorn, Henry	Earl of	Lord, M.P.	† Weeding, Thos.
Perry, G. W.	Robinson, Rev. W.	Starr —	* Welby, Sir W. Earle,
† Phillips, J. Burton	Beaucherk	Stone, W.	Bart.
* Phillips, Mark, M.P.	Rogerson, John	†* Stradbroke, Rt. Hon.	Welland, Chas.
Phipps, Thos. Hele	Rogerson, Joseph	Earl of	†* Wellington, His Grace
Pinnock, Rev. J.	Rusbridger, John	* Strafford, Dugdale,	the Duke of
Pinnock, Rev. H.	† Russell, Lord C., M.P.	M. P.	Wensley, Rev. J. A.
Pittman, Rev. T.	Sadler, Henry	* Suffolk, Right Hon.	Whitear, Rev. W.
Platt —	Salomons, David	Earl of	†* Whitbread, W.
Plestone, C. Berners	†* Sandford, E. A., M.P.	* Sumner, Col. Holme	Whitlaw, C.
†* Portman, Right Hon.	* Saunders, T. B.	† Talbot, Right Hon.	Whitting, J. H.
Lord	Satterfield, Joshua	Earl of	* Wilbraham, G., M.P.
* Price, Sir Robert,	* Sheffield, Lord	Tattersall, J.	Wilkinson, Rev. F.
Bart., M.P.	Sherborn, Geo.	† Thompson, P. Beilby	* Williams, W., M.P.
†* Pusey, P., M.P.	* Sheridan, R. B., M.P.	* Thompson, Rt. Hon.	Wilmot, Sir E., Bart.
†* Radnor, Right Hon.	†* Slaney, R. A., M.P.	C. P., M.P.	M. P.
Lord	Smith, Jeremiah	Tilden, John	* Willmott, W. W.
Rason —	†* Smith, J. A., M.P.	† Townley, R. G., M.P.	Wills, B.
Rawden, C. Wyndham	* Smith, W.	* Trotter, John	†* Wilson, Henry
Rayleigh, Right Hon.	Smythies, Rev. J. R.	† Vane, Rev. J.	* Wingate, W. B.
Lord	†* Sondes, Rt. Hon. Lord	† Verney, Sir Harry,	* Wood, C., M.P.
Richards, James	Spencer, Capt., M. P.	Bart., M. P.	Wood, John
†* Richmond, His Grace	†* Spencer, Right Hon.	* Wall, C. B., M. P.	†* Worsley, Lord, M. P.
the Duke of	Earl	* Watson, Hon. Richard	* Youatt, Wm.

IMPROVEMENT IN AGRICULTURE.

As the meeting for the establishment of the English Agricultural Society was so ably addressed by Earl Spencer, the Duke of Richmond, Earl Fitzwilliam, other noble Lords, Sir Robert Peel, and others of great influence, it would have been presuming in me, although I have devoted so many years of my life to the study and practice of agriculture, to have attempted to address the meeting.

No society can have a greater object in view than that of increasing the produce of the soil; enabling the country to raise sufficient food for its present large, or for a future increased population.

In travelling last year through a great many agricultural counties, I saw some excellent farming, but I also saw some miserably bad; much land, from the want of greater expenditure in labour, not producing above one half of what it is capable of. The causes of this bad farming I conceive to be these: the want of a better understanding between landlords and tenants, a more secure feeling in the latter that they, or in case of their decease, their families shall receive the full benefit they shall be entitled to for the capital which has been judiciously expended in improvements of their farms. In some cases a want of a greater spirit of emulation among tenants, and of their not having got entirely rid of the idea which pretty generally prevailed some years ago, that if their farms looked well, it was likely to be the means of having their rents raised. A great portion of the bad farming is on cold clay land, where rents are low, but from the great expenses of cultivation are not low enough; tenants in such cases get all they can from the land at the least possible expense. Some bad farming proceeds from downright idleness or inability; landlords are fully entitled to fair rents, and to have their land so cultivated as not to be depreciated in its value, and therefore in justice to themselves, and to their country, ought, even should a family be left unprovided for, to remove, without being thought to be harsh, those tenants who have let the land become in a foul state, who have not employed a due proportion of the labourers of the parish, and have lost to the public much agricultural produce. Another cause is want of capital. I feel quite sure that nothing could be

devised so likely to be the means of removing all these causes (except the want of capital) as the establishment of the English Agricultural Society.

A general opinion prevails that farming is yet in its infancy. I believe that agricultural science may be extended by chemistry, but I confess I am not so sanguine in my expectations as many others are, that such great discoveries will be made as will prove that farming is in its infancy. I believe that some improvement may be introduced into the present best system of agriculture, by the nature and the properties of soils being better understood; but, from my own practice and experience, and more particularly from the length of time that I have annually seen the farming at Holkham, I cannot quite accede to the general idea that farming is yet in its infancy. The soil at Holkham being light, the farming there cannot be a pattern for management of other soils. Some strong clay land cannot be ploughed with two horses abreast, and some which can be is only when it is moist, and when the horses treading on the land ploughed would do much mischief. Such great improvements after draining have within these four or five years been made in the cultivation of strong clay land, that many examples for good cultivation are to be seen in different parts of the country, but which are not attended to as they ought to be, by some occupiers of clay land.

Scotch farmers I know nothing of but by report; believing the Scotch to be the most industrious, persevering people in the United Kingdom, I can readily believe that they are good farmers.

The first object of the English Agricultural Society will, I conceive, be to endeavour by every means in its power, to get the best system of cultivation now known for different descriptions of soils, and the most approved kinds of grain and seeds, introduced on all the land not yielding that quantity of produce it is capable of; when it shall do so, there will be an ample supply of food for the present large population; then will be the time to seek out every aid that chemistry can afford, to supply the wants which may be expected to arise from a further increased population.

C. HILLYARD,

A MEMBER OF THE ENGLISH AGRICULTURAL SOCIETY.
Thorpelands, near Northampton, May 18th, 1838.

THE ENGLISH AGRICULTURAL SOCIETY.

(FROM THE MORNING POST.)

We alluded on Tuesday to an intended meeting the next day, at the Freemason's Tavern, for the purpose of forming an agricultural society. The meeting took place on Wednesday; it was attended by some of the first men in the country (Earl Spencer being in the chair), and the society has been formed. The Duke of Wellington was to have been present, but, having been hindered by other occupations, sent a letter expressive of his good will, with a subscription of fifty pounds. The proceedings of the day did not go off, however, without some rather unpleasant interruption, owing to the interference of persons who evidently misunderstood altogether the objects of the association then in the course of being formed.

The interruption proceeded from certain farmers, or friends of farmers, who appeared to consider the society as intended in some way or another to be connected with public or legislative questions, bearing upon the interest of owners or cultivators of land. Now a society of this kind may be a very proper thing, and we believe such an association does exist, under the name of the "Central Agricultural Association," the objects of which are not only to promote the interests of practical agriculture, but to protect those interests from legislative injury. This association has not, indeed, prospered as we could have wished, and as it probably would have prospered had the zeal of its honorary secretaries been supported by an equal zeal on the part of its leading members. But, be this as it may, the association does, we believe, still exist, and has its machinery organized for promoting the Legislative protection of Agriculture.

The new society, however—if we understand the matter rightly—neither has, nor professes to have, anything more to do with Legislative proceedings than the Geographical Society, or the Geological Society, or any other association for promoting the interests of practical science. It is to be upon the same plan as the Highland Society of Scotland, which is to the agriculture of that kingdom what the Royal Society of London is to the higher branches of chemical and mechanical philosophy. There is plenty for an agricultural society to do, without touching upon those questions which are debated in Parliament. Intelligent men may institute inquiries and experiments for ascertaining what is the most prolific kind of seed wheat, without being bound to any particular side of Mr. Malthus's politico-economic theory of the unreasonable increase of the human species, or they may agree to take great pains to set in motion a more effectual mode of churning butter, although they are opposed to one another concerning the agitation which it is the pleasure of Mr. O'Connell to promote in Ireland.

In the Highland Society of Scotland, improvements are discussed, and premiums, we believe, granted when they are found to be practically successful, and papers on agricultural subjects are also read at the meetings. These papers are published, under the title of "The Prize Essays and Translations of the Highland and Agricultural Society of Scotland," and they come before the public every three months, in conjunction with the *Quarterly Journal of Agriculture*, published by the Messrs. Blackwood of Edinburgh. In this way they get into the hands of the Scotch farmers, who are no doubt a more reading race of people than the English, and they do great good. They do good, whether they lead to changes in farming operations or not, for they lead practical farmers and graziers to think about the business in which they are engaged. Mr. Broegham, or some other wit who wrote in the *Edinburgh Review*, and loved a sneer at the want of "enlightenment" in Irish labourers, said that they were "merely six-foot machines for converting potatoes into human nature." Now it is, perhaps, but too true that in England as well as in Ireland our agricultural people are deficient in

thought and invention. They are too much in the nature of agricultural machines, and if they could but be led to read and to think about their business they would (in our opinion) become happier and more respectable beings than they are. And, besides this, it is extremely probable that as they become more intelligent they will hit upon important improvements, and go a great way in effecting that grand desideratum of causing two blades of grass, or two ears of corn, to grow where only one grew before. It would be a glorious achievement if we could exhibit as great a superiority to the rest of the world in agriculture as we can exhibit in manufactures. We require corn laws, because, unless by living on wages so low, and on rents as low, as those of the Continent, we cannot compete with the Continental growers, but our manufacturers, who also pay vastly higher rents and higher wages than the manufacturing capitalists of the Continent, nevertheless more than a match for them, in consequence of some natural advantages, and also in consequence of our greatly superior skill and perseverance. It were a proud day for England if by superior skill and perseverance in agriculture also we should be able to undersell the Continental grower, notwithstanding his lighter taxation, and his beggarly wages, and the vegetable diet which alone the people who live upon such wages can afford to buy.

This may be a Utopian expectation, but the best step towards its fulfilment is to teach our farmers to study improvement, and we trust the New Agricultural Society will do something important towards that teaching.

With respect to political matters in connection with agriculture, we have only to refer to the speech of Sir Robert Peel at the meeting of the new society on Wednesday, from which it will be seen not only that no interference with legislative proceedings is contemplated, but that such interference is expressly prohibited by the rules of the association.

ON THE USE OF LIME IN RAISING TURNIPS.

TO THE EDITOR OF THE MARK LANE EXPRESS.

Sir,—In the constant perusal of your interesting Paper, I have long observed with pleasure how strongly you advocate increasing knowledge in practical Agriculture, allow me to ask you, or any one of your readers, for information upon the following points. Will Lime applied to the land at the same time as animal manure, in any way affect the *nutritious qualities* of the manure, or in any way deteriorate the effects of it on the immediate or the ensuing crop? Suppose I lay on the fallow for turnips, 10 or 12 qrs. of lime per acre from the kiln immediately, and as soon as it is properly slacked spread it and work it regularly into the soil, and at the time I sow on drill the seed, lay on 10 or 12 loads of farm dung per acre,—say in a month after the lime is so applied. What I am anxious to learn is, will the lime so applied in any way injure the dung? Like many of my brother farmers, I have not studied the *science of Chemistry*, which I believe is a valuable attainment in agricultural pursuits. I therefore shall feel greatly obliged to you, Mr. Editor, or any one who may answer my request through the medium of your excellent Paper. I would further enquire if *slacked lime*, mixed with ashes, and drilled with the seed, would prove beneficial to a crop of Swedes or turnips; and what quantity of lime so mixed with ashes would be likely to answer the purpose best. I am, Mr. Editor,

Yours very respectfully,

AN ADVOCATE FOR GOOD FARMING.

REPORT OF THE TITHE COMMISSIONERS FOR ENGLAND AND WALES, TO HER MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR THE HOME DEPARTMENT.

(PURSUANT TO THE ACT 6 AND 7 WILLIAM IV., c. 71., 1838.)

TO THE RIGHT HON. LORD JOHN RUSSELL, SECRETARY OF STATE.

Tithe Commission-office, May 1, 1838.

MY LORD,—The Tithe Commissioners are directed by the Act for the Commutation of Tithes in England and Wales to certify and report to one of Her Majesty's Principal Secretaries of State, before the 1st of May, 1838, in what manner certain discretionary powers given to the said commissioners by that act ought in their judgment to be exercised, and to lay down such rules as to them seem expedient for the guidance of assistant commissioners.

In obedience to that enactment we have the honour to lay the following report before your lordship.

Those discretionary powers, on the proper mode of using which we are to report, enable us, while commutating tithes for rent-charges, to increase or diminish the amount of the tithe-owners' receipts or compositions by one-fifth; and further enable us, in certain special cases (each of which is to be separately reported on by us to one of Her Majesty's principal secretaries of state), to disregard the past compositions altogether, and to award rent-charges with reference to the average rate which shall be established in respect of lands of like description, and similarly situated in the neighbouring parishes.

By another enactment of the Tithe Commutation Act we are further directed to include in our report rules for the guidance of the assistant-commissioners in estimating the value of the tithes of coppice-wood.

Our report will consist, therefore, of three parts.

The first part will relate to the increase or decrease (to the extent of one-fifth) of the amount of the tithe-owners' receipts when the tithes are commuted for rent-charges.

The second to those cases reserved for special adjudication, in which the past receipts or compositions are to be altogether neglected.

The third part to the mode of estimating the tithe of coppice.

We have thought it expedient to add some remarks as to the proper mode of assessing the expenses incurred in certain processes of the commutation.

ON THE INCREASE OR DECREASE OF THE RECEIPTS OF TITHE-OWNERS WHEN THE TITHES ARE COMMUTED FOR RENT-CHARGES.

A demand for an increase or decrease of the average compositions for tithe, or the amount of receipts of tithe in kind, may have reference to the compositions generally, or especially to that part of them which, instead of being paid directly to the tithe-owner, has been paid for him as rates or taxes. With the exception of one class of cases, which shall be hereafter pointed out, whenever a party applies to have an addition made to the average compositions of the seven years preceding Christmas, 1835, the assistant-commissioner we think should, as a preliminary and indispensable step, require the tithe-owner to produce proof that the value of the titheable produce during that seven years exceeded the amount of the compositions, after deducting the expenses of collecting and making due allowance for the inferiority in value produced by the mixture in the tithe-owners' samples, and by the hazard and damage incident to his mode of collecting and housing his produce. When such proof has been adduced, the tithe-payer may support the reasonableness of the composition—first, by showing any facts which make it probable that, if the tithe had been taken in kind, or if a higher rate of composition had been demanded, the average

titheable produce would have been less than it was to an extent which made the actual compositions a reasonable equivalent for the rights of the tithe-owner; or, secondly, by proving any facts which make it probable that the amount of titheable produce raised during the seven years which are to govern the average was only a temporary, and was not likely to be a permanent, production.

We are somewhat reluctant to attempt any enumeration of the facts, or classes of facts, which might be produced in proof of either of these propositions, because we do not wish to narrow the discretion of the assistant-commissioners, who, when on the spot, will be the best judges of the nature of the evidence calculated to throw light on each particular case.

In order, however, to make our own views more intelligible, we will point out some of the facts which, it may be assumed, will be the most commonly relied on, without meaning to exclude others which may at any time appear to the assistants to bear upon the cases immediately before them. Proof may be received, we think, on the part of the tithe-payer, that the collection of tithes in kind would have been more than ordinarily troublesome and expensive; that difficulties as to roads and markets would have reduced the value of the titheable produce when collected more than usual; that unusual and expensive crops have been grown on the faith of continued compositions; that an unusually expensive system of tilling and manuring has been adopted on the faith of continued compositions; or that peculiar facilities exist for changing the culture from arable to grass. If one or more of these, or any analogous circumstances, satisfy the assistant-commissioner that the compositions, though not representing the full value of the titheable produce, were still a fair equivalent for the rights of the tithe-owner, he should refuse to increase the rent-charge. If after making full allowance for all such circumstances, he thinks the average compositions fell below a fair equivalent for the rights as the tithe-owner, he should increase the rent-charge by adding to the average compositions either a whole fifth of their amount, or such a proportion of that sum as appears to him reasonable.

When a tithe-payer applies to have the average of the compositions or the amount of receipts of tithe in kind diminished before a rent-charge is declared, it will be for him to show, either, first, that the compositions have actually exceeded the real net value of the titheable produce during the seven years; or, secondly, that there is valid ground for believing that the cultivation and produce would not have continued to be what it was during the seven years preceding Christmas, 1835, if the full rate of past compositions had continued to be exacted.

The assistant-commissioner may receive in evidence any facts which tend to establish either of these propositions. Two are obvious. Land may have been laid down to grass during the seven years preceding Christmas, 1835, or indeed at any time before the passing of the Tithe Act, under circumstances which make it probable that it will continue in grass; or the cultivation, the produce, and the compositions may have been gradually and continuously declining during the seven years preceding 1835, and the decrease may be likely to be permanent. If these or any analogous circumstances satisfy the assistant-commissioner that the average compositions or net receipts of tithe in kind of the seven years preceding Christmas, 1835, would form a rent-charge which would be more than an equivalent for the rights of the tithe-owner, he will diminish the rent-charge either by a whole fifth of the average amount of the compositions or receipts, or by such a proportion of that sum as appears to him reasonable. If he is not so satisfied, he will refuse to diminish the rent-charge.

Where tithe has been taken in kind continuously, and for a considerable period, it may be assumed that the cultivation of the land has been accommodated to that state of things. In such cases the assistant-commissioner will only have to make proper allowances for the expenses of collection, and for the inferior value (as compared with other produce) of tithe produce collected

and housed by the title-owner. But when tithe has been taken in kind unexpectedly, discontinuously, and for a portion only of the seven years preceding Christmas, 1835, then the titheable produce may have been greater, because the actual cultivation had been adopted on the faith of a continued composition. In such a case, we are of opinion that the average should be amended and lowered, by substituting for the receipts of those years the succeeding compositions, or, if there have been no succeeding compositions, then such a composition as may appear to the assistant would have been reasonable under the circumstances. It must be understood, however, that this substitution is not to be carried so far as to reduce the rent-charge by more than one-fifth of the average receipts, for that would be exceeding our powers. Subject to this limitation the average obtained by such a substitution should still be open to objection, as too high or too low to be perpetuated.

We have already intimated that there is one class of cases in which the titheowner, making an application for an increase, should not be obliged, as a preliminary step, to prove that the actual net value of the titheable produce during the seven years preceding Christmas, 1835, exceeded the amount of the compositions.

In making this exception from the general rule, we had in view certain cases in which the accounts of the seven years may show a progressively increasing amount of titheable produce, arising from the spread of tillage, from improved, though not unusually expensive, farming, from the restoration of lands to a productive state, which litigation and doubtful ownership or the misfortunes of the occupiers had caused to be temporarily neglected or abandoned, or from analogous causes. In some such cases the assistant-commissioner may have a decided conviction that the increased production will be permanent, and is not dependent on the continuance of the average rate of past compositions or receipts. In such cases we are of opinion that grounds would be laid for an addition to the rent-charge to the extent of one-fifth of the compositions or receipts for tithe in kind, or some portion of that sum; as, in the corresponding case of a progressive decrease of titheable produce from the decreasing breadth of arable land, or from other causes, we have already stated that grounds would be laid for a reduction of the average of the compositions or amount of receipts, whenever the assistant is satisfied that the decrease in the produce is likely to be permanent.

We have pointed at the facts, or rather classes of facts, best calculated to guide the decisions of the assistants when they are called on to increase or diminish the average compositions; and in many cases direct evidence of such facts may be adduced sufficient to satisfy their minds; but this will not be the case in all. In many instances it may be impossible to obtain direct and satisfactory evidence as to the alterations which would have taken place in the efficiency or the modes of cultivation if a higher rate of composition had been demanded, or if tithes had been taken in kind. The assistants will diligently obtain all the local information possible, and carefully weigh all such evidence as may be adduced by either party, and still considerable doubts may remain on their minds as to what effects a more rigorous exaction of tithe would have had on the produce. In all such cases of doubt, it appears to us clear that the rates of composition which they find prevailing in neighbouring parishes similar in quality and position ought to have considerable weight in determining their decisions. Circumstances which it may be impossible to detect in an examination of a few days have in many cases influenced in the long run the rates of composition in large districts, and accommodated those rates to the inferior state of cultivation which would gradually have followed any attempt on the part of the tithe-owner to have exacted his full legal rights. In districts in which numerous cases of voluntary commutation have already occurred the rent-charges established by the parties themselves will of course afford a yet safer standard of comparison when the assistant is called on to decide cases which the direct evidence adduced has left doubtful.

Circumstances connected with the payment of parochial rates may occasionally form a special ground for

applications to increase or diminish the sum formed by the joint amount of compositions and rates. We understand the main object of the tithe commutation act to be to perpetuate in the form of rent-charges the sums which the parties themselves have treated tithes as worth during the seven years preceding Christmas, 1835, with the exception of certain special cases, and subject to a variation in all to the extent of one-fifth of the whole of such sums. While doing this it is also the purpose of the act to put upon exactly the same footing the tithe-owners who have paid their own parochial rates and the tithe-owners whose rates have been paid for them by the tithe-payers. If, therefore, in two parishes, in both of which the tithes have been treated as worth 600*l.*, the tithe-owner in one has received 600*l.* and paid his own rates, and in the other the tithe-owner has received 400*l.*, and 200*l.* has been paid for him as rates, that 200*l.* must be added to the 400*l.* to make up the tithe-owner's real average, and put him on a footing with his neighbour.

There are cases, however, in which the tithe-payers, having contracted to pay rates for the tithe-owner, have proceeded to assess the tithes at a much smaller sum than they would have been assessed at had the rates been paid by the tithe-owner himself. This fact, of course, can only be established by showing the principle on which tithes had customarily been assessed in that immediate neighbourhood; and that being shown, a ground may be laid for adding something to the joint amount of rates and compositions, not strictly perhaps under the twenty per cent. clause, but because in all such cases the joint amount of the compositions, and of the rates which are shown to have been paid on the actual assessments, do not represent either the sums agreed to be paid by the tithe-payers, or the sums really paid by them when the greater amount of rates necessarily levied on their own farms, in consequence of the low assessment of the tithe, is taken into account. On the other hand, there are cases where the sums paid by the tithe-payers as rates on their tithe represent larger sums than those which were in the contemplation of either party at the time the agreement between them was made, and form with the compositions therefore a larger sum than either party can be said to have treated the tithes as worth. These are cases in which unusual, and therefore unexpected, circumstances have swelled the rates in particular years beyond the amount of the expenditure of the parish for ordinary objects, and beyond the amount, therefore, which either party reckoned on at the time their contract was made.

The rules which we have here established appear to us such as, when fairly and steadily applied to individual cases, will do justice to both parties. Our conviction is, that while doing such justice they will carry on the compulsory commutation very much in the spirit and with the results that have hitherto characterized the voluntary commutation. It appears from the returns made to Parliament that the rent-charges fixed by voluntary agreement in the different counties have oscillated within moderate limits on each side of the past compositions; and we believe that the rules which we now submit for the guidance of the assistant-commissioners will have the effect of making the rent-charges established by compulsory awards oscillate in a similar manner.

SPECIAL CASES.

Special cases are cases reserved by the 38th clause of the act for a separate adjudication. In these cases the past dealings of the parties are to be wholly neglected, and the rent-charges decreed are to be determined by the rent-charges established in lands of the like description, and similarly situated, in the neighbouring parishes. Such cases will probably be very much confined to the three classes enumerated in the Commutation Act—namely, cases of direct fraud and collusion; cases in which a great length of time has elapsed since the making a composition which remained in force during the seven years preceding Christmas, 1835; and cases in which the parties have stood in some peculiar relation to each other, by which the free agency of one of them was restrained, or in consequence of which the composition nominally made for tithes was

only part of a bargain including other property demised, and affords no evidence of the separate value of the tithes. But as we are in every case to report to the Secretary of State the grounds upon which we have reserved a parish for such separate adjudication, and as we are confined to the establishment of rent-charges limited by the rate of those fixed on similar lands in the neighbouring districts, we think the rule as to those cases may, without any danger, and with some advantage, be put in a more general form; and that every case should be declared to be a special case in which it appears that, from some peculiar circumstances, the past compositions afford no evidence of what the parties themselves considered the titheowners' rights as worth during the seven years preceding Christmas, 1835.

COPPICCE.

The difficulty of fixing rent-charges in lieu of the tithe of coppice-wood arises mainly from the fact, that from different coppices being at the present moment in different stages of growth, there would be injustice in fixing the same annual payment on coppice lands of equal quality, if that payment were to commence at once on all.

To avoid this, a certain sum might be paid down as an equivalent for the value of the tithe of the actual growth of the wood, which would vary according to its age, and then a uniform rent-charge might be fixed on lands of like quality; but this would in some cases be extremely inconvenient and objectionable to the tithe-payers.

It appears to us preferable that the tithe actually accrued should be considered as so much capital belonging to the tithe owner, and that the tithe-payer should be charged only with interest on it at four per cent., in addition to the tithe he would pay in future, supposing the coppice to have been just cut.

This plan, besides being more convenient to the landowners, has the additional recommendation of securing a somewhat larger permanent payment to the tithe-owners than they would hereafter receive if all the tithe due for the growing wood were paid down at once.

For the details of this plan, and some calculations as to its results, we refer your Lordship to the paper marked "A" appended to this report.

These rules as to coppices will in most cases, we think, satisfy justice and the wishes of the parties; but in some few instances, such as those of very aged tithe-owners or of tithe-payers who are tenants for life, they may produce discontent and hardship. We are of opinion, therefore, that it will be expedient to reserve to this commission the power, on a special report from an assistant commissioner to direct any particular case of the tithe of coppice-wood to be arranged in such a manner as may seem to them best suited to the peculiarities of that case.

EXPENSES.

Among the important duties of the assistant-commissioners will be that of assessing the expenses of awards in cases where applications are made for an increase or diminution of the averages, or where an appeal is made against the decision of the assistant-commissioner on the ground that he has not correctly calculated those averages. It does not appear to us to be expedient, or even clearly legal, to take wholly away from the assistants the power given them by the 73d section of the act to assess costs between parties in such proportions as in each case they shall think fit and reasonable; but for their guidance in the exercise of that power, we declare it to be our opinion, that when notice of such an application to vary the average is given under the 38th clause of the Commutation Act, or when parties appeal against the award, to save the expense of unnecessary preparation on the part of the opposite party, the parties applying or appealing should set forth in a written notice the grounds of their application or appeal, and that the applicant or appellants should not afterwards be allowed to enlarge or change those grounds.

On the hearing, we think each party should support

his own case by such evidence as he may think it expedient to produce, and that the assistant-commissioner shall, if he see fit, decide on such evidence alone, leaving him always the power of directing valuations and admeasurements if, in order to resolve his doubts, he finds it necessary to do so.

The expenses incurred by the parties themselves should, as a general rule, be paid by them respectively.

The expenses incurred by the directions of the assistant-commissioner he will assess as the justice of the case may seem to him to require.

But if cases arise in which either the application or the resistance to it appears to be obviously frivolous and vexatious, he should state that fact to us, and the grounds of his decision, and charge all the expenses of both parties, and all the expenses incurred by his direction, on the party making such frivolous or vexatious application or opposition.

And although, as a general rule, the expenses incurred by the parties should be defrayed by themselves; yet, when they are clearly driven to such expenses by the perverseness of their opponents, and by refusals to admit facts which the assistant thinks ought not to have been contested, then we think the assistant may properly assess on the party whose perverseness and litigious refusals have led to unnecessary expenses the whole of such expense, although incurred in the first instance by his adversary, and that even in cases as to which he is not prepared to report the whole contest as frivolous and vexatious.

A portion of the expenses incurred by the parties themselves, or by order of the assistant, may be for the purpose of obtaining information which will lessen the expenses of the apportionment: we are of opinion that in all such cases the assistant should be directed to levy such expenses as expenses incident to the apportionment; and, when such expenses have been incurred by the parties themselves, he should order the repayment to them of such sums as he has so levied.

We have the honour to be,

Your Lordship's most obedient and faithful servants,

W. BLAMIRE.
T. W. BULLER.
R. JONES.

TITHE COMMUTATION.

(FROM THE OXFORD HERALD.)

The Bishop of Hereford has, with a view to the protection of the interests of the successors to the present incumbents in the diocese of Hereford, issued, through his secretary, the following string of queries for his lordship's information, prior to his assent being given, under the tithe commutation act; and which queries we are gratified to have an opportunity of now laying before our readers, by favour of a clerical friend; and we insert them with a hope that they may come under the notice of other prelates, and lead them to adopt a like judicious course:—

1. "Is your benefice a rectory or a vicarage?"
2. "If a vicarage, what tithes have you been in the habit of receiving, either by endowment or prescription?"
3. "Who is the impropriator of the great tithes? Is he a landowner in the parish, and to what extent?"
4. "Who is the patron? Is he a landowner in the parish, and to what extent?"
5. "Are you in possession of any, especially of recent valuations of the tithes of your parish by competent surveyors? Of what date, and what the value assigned?"
6. "If all your tithes have been compounded for, what was the amount of the composition in each of the seven years ending with 1835? On what principle were such compositions made? Were they on the full value? How long have they existed? Did they include parochial rates? Have any abatements been made from

the composition as once settled? How often, and for what reasons? Do such reasons for abatement still exist?

7. "Has the rate on tithes been more, or less, than the full proportion they were liable to bear, having reference to the annual profits of the lands, and to the rent thereof only? See the case of *Rex v. Joddrell*, 1 Barnwell and Adolphus's Reports, p. 403.

8. "Are the total quantities and several classes of land in the parish accurately stated in the table in the commutation agreement, as underneath? Are the same stated from actual measurement, or how otherwise? Are the quantities customary or statute measure?"

A.R.P.

Arable .....	.....
Meadow and pasture .....	.....
Orchard and garden .....	.....
Woodlands .....	.....
Other lands .....	.....

And what is the average rent per acre of each description as above?

9. "What is the nature of the woodland? Is it coppice, fellable at stated periods, and what period on an average? What the average value of the coppice per acre when fellable, and what has been usually paid for tithe, either in the pound on the net produce, or per acre? What, in fact, has been received from this source on an average of twenty or thirty years; and, if the actual receipts do not afford an average, what is the value of the tithe according to the produce of similar woods in the neighbourhood?"

10. "What is the usual course of tillage on the arable lands? and what the average produce of the several crops of wheat, barley, oats, or other grain, per acre?"

11. "What is the number of acres at present cultivated as hop-ground or orchards in your parish? Is the number likely to increase, or otherwise, and why?"

12. "Have you, or any of your predecessors, claimed tithe which has not been rendered? Has any suit, or question, been raised respecting any modus, or claim to exemption from tithe? If so, have you taken counsel's opinion on the subject, and what is the nature of that opinion?"

13. "In what way, and on what ground, is the calculation made for the commutation at £. per annum? Is it in your opinion a fair and adequate sum for a permanent commutation?"

HOP DUTY.

The following is a copy of the correspondence which has taken place between the Chancellor of the Exchequer and some of the members connected with Worcester and Hereford on the subject of the postponement of the hop duty:—

House of Commons, May 10, 1838.

SIR,—We are requested by our constituents, who are hop planters in the Counties of Worcester and Hereford, to apply to you for the postponement of the payment of the hop duty, now becoming due, till the month of September next. Sensible as we are of the great difficulty which the hop planters have of meeting the above payment at this particular period, we earnestly entreat you to take their case into your favourable consideration, and comply with their wishes.

We have the honour to be, Sir,

Your obedient Servants,

HENRY J. WINNINGTON, E. FOLEY,
H. B. LYGON, C. GREENAWAY.
K. HOSKINS,

To the Right Hon. T. Spring Rice,
Chancellor of the Exchequer.

Downing-street, May 14, 1838.

MY DEAR SIR,—In reference to the application in which you, Mr. Hoskins, and other members of parliament are interested in behalf of the Worcestershire and Herefordshire hop growers, the best, though I fear not the most satisfactory answer I can give you is to enclose

a copy of a letter addressed by me to the Duke of Richmond a few weeks since. You will see from the tenor of that communication that it is impossible I should comply with your request.

Believe me, my dear Sir, very truly yours

T. SPRING RICE.

Captain Winnington, M.P.

MY DEAR LORD DUKE,—I take the liberty of addressing to your Grace my reply to the Sussex application for a postponement of the time of collecting the hop duty, and for a consideration of the proposal that hops should hereafter be subject to an *ad valorem* and not to a fixed duty.

When Lord Spencer altered the law, so as to give a greater accommodation to the hop growers, by an enlargement of their credit and a division of the duty, and when I carried the concession still farther, it was upon the distinct statement that all arbitrary interference on the part of the Treasury should cease.

These alterations of the law by Treasury minute are always open to the most serious objection; they alter and disturb the arrangements which have been entered into by a reliance on an Act of Parliament, and vary the value of property. Objectionable as this is in every case, it becomes more especially so in an article of so speculative a value as hops. An additional objection was derived from the Report of the Commissioners of Excise Inquiry, where the evils of the existing credit are strongly pointed out, and its limitation is recommended.

Your Grace's observations, and those of the Deputation, in reference to the present state of employment, and the demand on the guardians in the east of Sussex for relief, are very important, and have been duly considered. But I regret to say that I do not think that they would justify me in departing from the general principle to which I have already adverted. Hop cultivation carries with it as an incident a surplus of labour at particular times, which is afterwards absorbed when agricultural employment revives. If in this alternation a remedy is to be sought for by postponing the obligation of our revenue laws, not only would there be a principle admitted that each branch of industry would seek to apply to itself in turn, on a fall of prices, but parties looking to the Treasury for relief under such circumstances would be led to rely less on their own resources, and upon that care and prudence by which distress may either be mitigated or averted.

On these grounds it is impossible for me to comply with the request of the deputation.

With respect to the *ad valorem* rating of the hop duty, I have inquired into the subject, and am informed that it would be wholly impracticable, and that even if practicable, it would not lead to the accomplishment of the object of the memorialists. I may add also, that I feel convinced such a system would produce endless frauds on the revenue, and disputes between the farmers and excisemen.

I have gone into these details from my sincere respect for the deputation of which your Grace was the head, and from the regret that I feel myself compelled by my sense of duty to the public to refuse my assent to the prayer of this memorial.

I have the honour to be, &c.

(Signed) T. SPRING RICE.

His Grace the Duke of Richmond.

HOP DUTY.—On Wednesday last, the first instalment of the hop duty for the last year's crop was collected at East Retford, and we understand that the second and last payment is fixed to take place on the 16th of November. It is to be regretted that the collectors of this tax should be so punctilious respecting the description of money they will take, the more particularly so as one of the Retford banks did not seem agreeable to give some of the growers an exchange for such notes as the collector refused to take (even though the notes were altogether of a local nature), which placed the payer in a very difficult situation. During the day, the collector agreed to take the notes of the Nottingham and Nottinghamshire Banking Company, which accommodation proved of considerable advantage to many of our respectable neighbours.—*Doncaster Gazette*.

THE LATE SMITHFIELD SHOW.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—It was but yesterday that my eye rested on the letter of Mr. John Price, on “the decisions of the judges of the late Smithfield Club;” (*Mark Lane Express*, April 23.) Mr. Price at once shows himself a breeder and partizan, but no grammarian, and starts off a little testily in favour of himself and *long horns*. He first purposes opening the vials of his wrath upon your correspondent R. S., (your paper of March 26,) but inadvertently spills his bitterest gall on Bucolicus, who has sinned in another paper. Of Mr. Price’s coarseness I will say nothing, with some people it is constitutional, and as abuse is but weak argument, may I simplify the subject.

Bucolicus, of whose identity I have not the shadow of a guess, in a temperate and dignified manner criticises the decisions of the judges at the late Smithfield Club in the case, as I presume, of two competing beasts belonging respectively to Mr. Senior and Mr. Lovell. In *Mark-lane Express* of March 26, R. S. temperately compares the respective merits of the improved short-horned, and the Hereford breeds, and awards the superiority to the former. Mr. Price rejoins with more than Bucolicus’s zeal, and less than his suavity, and roundly calls him a propagator of “wicked falsehoods,” a writer of “scurrilous libels,” &c., and also puts words into friend Jellicoe’s mouth calling names such as “dastardly Bucolicus,” &c. So so, Mr. Jellicoe, while you are moralising that “it is natural for disappointed candidates for fame, &c. to forget at times their propriety,” did it not occur to you that you have glass windows? Mr. Price, after calling his opponent a “righteous unknown,” (what an infinity of space between them) charges him with sending his letter to *Bell’s Messenger*, paying for it as an advertisement and then refusing his name to the editor. Now while I positively doubt the fact I yield the hypothesis,* and ask, is there to be found no pardonable motive for anonymous writing? is it needful for every author to go labelled through the world? “I have exposed your foibles and censured your vices, therefore come and pelt me.” Were Junius’s strictures the less true or less cogent from the writer being unknown? Mr. Price broadly charges Bucolicus with having “other motives” at heart than the welfare of the Club, and that he, Mr. P., alone has the true druidical reverence for it; that Smithfield is his sacred grove, and the three judges, J., O., and F. are the high priests to offer up his burnt offerings. Can men of Mr. Price’s judgment and integrity ever slip? Let us see. Mr. P. I believe is the ever ready echo of any great man who will deign to make use of him, and in *Mark-lane Express*, March 22, states “that he deems the Smithfield Cattle Show constituted as it now is, a perfect delusion,” and turning to Johnson I find delusion to mean a cheat, a false representation; ergo, if the bland Mr. Price with his accurate knowledge of the construction and working of the Smithfield club, pronounces it a cheat, and given to false representation, little wonder that the scurrilous Bucolicus should watch the proceedings of a society, of which he says no worse than that it is “an establishment that for forty years has been gradually increasing in consequence and progressing to perfection,” and only hopes that all its future judges

may be like Cæsar’s wife, not only chaste but unsuspected.

Mr. Price omitted to tell us that he is a breeder of and therefore interested in the equivocal fame of the Hereford breed, and that he supplies Mr. Senior the successful candidate, with nearly all his stock, and perhaps the very beast in question.

I also believe the premium in dispute was to be awarded to the best beast *without* reference to quantity and quality of food after the 1st of August preceding the show, therefore questions on that subject are irrelevant and impertinent, and should not have been put or answered. But Bucolicus needs not my puny aid; I cannot illumine sunshine. His letter is unanswered and unanswerable, save only in one particular; he says that *two* of the judges were visiting Mr. Senior prior to the show, and he now handsomely corrects his error by saying there was but one, and I think that one would have been better away. In an ordinary lawsuit such a juryman would have been objected to, and his place supplied by a less suspicious personage. Your’s, &c. ONE.

TO THE EDITOR OF THE MARK LANE EXPRESS.

SIR,—Having read in your Journal of 23rd April, a letter signed J. Price, on the decisions of the Judges at the last Smithfield Show, I beg to say in answer to his observation, “that there is not a short-horned breeder of any eminence” that durst accept his challenge, and send to Mr. Senior two short-horned steers to be fed against two of his breed, that it strikes me if Mr. P. gave his challenge a moment’s consideration he could never expect that any “short-horned breeder of any eminence” would put into the hands of Mr. Senior, a prejudiced Hereford feeder, any of their best show beasts; but I wish to impress on the mind of Mr. P., that one of the short-horned steers that will meet his in Saddler’s Yard next show will be fed as much “with an eye to profit,” and will leave the feeder as much profit per stone as Mr. Senior’s, and unless he shows a very superior animal to the one in the second class last year, he will find that he will not have the pleasure of carrying to Boughton the most valuable premium from Smithfield; and Mr. P. will be disappointed in his expectation of receiving the silver medal as the breeder. Mr. Price may rest assured that, if as he says, “there is not a short-horned breeder of any eminence, who will risk the reputation of the breed by entrusting either an ox or steer of the sort” into the hands of Mr. Senior, there are many short-horned breeders of eminence who will be most happy to show ten or twenty cows of the pure Durham breed, against the same quantity bred by Mr. P., for any sum of money he pleases.

Your obliged Servant,

Q IN A CORNER.

TRIBUTE OF RESPECT TO SIR H. P. DAVIE, BART.

On the afternoon of the 1st May, the subscribers to the Sandford Annual Ploughing Match assembled in the spacious School Room erected in their village by Sir Humphrey Davie, for the purpose of presenting that much-esteemed gentlemen with the Piece of Plate noticed in our paper of the 26th ult. The meeting was highly respectable and numerously attended, and all seemed sincerely desirous of joining to offer this tribute of gratitude to the worthy Baronet, for his unwearied

* P.S. Since writing the above, Bucolicus positively denies that he paid for his letter as an advertisement, or even sent it at all to *Bell’s Messenger*.

zeal and liberality in promoting the interests of the Association.

The Rev. C. GREGORY was called to the chair, and Mr. HENWOOD of Longbarn sat as Vice-President. The Chairman in a neat speech addressed Sir H. Davie in the name of the Subscribers present, alluding to the well-known benevolence and liberality of the Hon. Baronet, not only as patron of the Agricultural Association, but on every occasion where he could by any means promote the interest and welfare of his tenants and neighbours. He concluded by requesting him to accept, at their hands, the small but sincere tribute of their gratitude, with the thanks of the Subscribers, for the zeal and liberality with which he had watched over and promoted the interests of their Society.

Sir H. DAVIE then rose, and in a speech characterized by his usual kindness of heart, assured the subscribers how deeply he was sensible of this proof of their regard; and said that the compliment just paid him, was the more gratifying to his feelings from its being totally unexpected and unknown to him, until he was informed that the intention had been carried into effect. He assured them that he should ever cherish and preserve it as the most valuable of his possessions, as it was the free offering of friendship from his neighbours, who, however, he thought had over-rated his exertions in the cause of the Society, since without their co-operation he could have effected nothing. He was glad to see such a spirit of unanimity and determination to maintain their Sandford Agricultural Association. He begged to assure them of his continued support, and hoped that their gift, which would be handed down to his successors, would stimulate those who came after him to continue to give it their countenance and aid. (*Loud cheers.*)

Refreshments, which had been provided for the occasion by Sir H. Davie, having been placed on the table, the respected Chairman proposed the health of the Queen, which was received with all due expressions of loyalty. The health of Sir H. Davie was then given, and received with the most rapturous applause; the cheering having subsided, the worthy Baronet rose and returned thanks, and, in conclusion, proposed the health of their much-esteemed Chairman and Clergyman, paying a just eulogium, on the manner he had discharged the duties of his important office since he became their pastor. The manner in which this toast was received fully proved the high esteem and respect the Rev. gentleman is held in by his Parishioners. The healths of Colonels and Mrs. Ferguson and Miss Davie were duly received and acknowledged by Sir H. Davie. The health of Major Bent was also enthusiastically received and acknowledged by the Rev. Chairman. Sir H. Davie then retired, and the party separated highly pleased at the gratifying manner in which he had received their gift.

WOOL: PROSPECTS FOR 1838.

(ORIGINAL.)

As the time is fast approaching when the farmer will have to make up his mind, whether to dispose of his wool at the price with which the wool-staplers and other buyers first come into the market, or to wait until its true marketable value becomes fixed in the autumn, it is a matter of the first importance to him to ascertain, and accurately weigh, the causes which are likely to affect the demand for it as compared with the supply. This is, indeed, a point which at all times requires serious reflection and sound judgment to determine, with any chance of success; but in the present season the wool-trade will depend not only upon the uncertainties to which it is usually liable, but upon the issue of circumstances of such rare occurrence, and yet extraordinary magnitude, that more than common caution will be necessary to protect the grower from committing an error, by precipitation on the one hand, or reluctance and indecision on the other.

The quantity of wool grown is pretty much the same in one year as in another: and the supply, therefore, to the market will only vary, as there happens to be a greater or less quantity of preceding clips upon hand. We have known large flock masters hold over for four or five years together; but this has only been during a long run of ruinously low prices, to which they were unwilling to give way; and, besides that we have no such gloomy retrospect on the present occasion, there are, on the contrary, sufficient indications to assure us, that the stock of old wool upon hand is any thing but excessive. In January last, prices went up with considerable elasticity, though the demand for some time previous had been very far from brisk; and, since the demand dropped off again in March, prices have, nevertheless, kept up with tolerable steadiness. These are two of the best indications of there being no great stock of *English* wool upon hand; and, the importation of *foreign* wool being a branch of trade which the manufacturers manage directly for themselves, the recent state of commercial stagnation and monetary derangement compelled them to limit it to their immediate wants. The supply, therefore, for the coming season may fairly be presumed not to go beyond a legitimate average.

With respect to the demand, this will depend upon three contingencies.—First, the quantity of manufactured stock upon hand; secondly, the call for home consumption; and, thirdly, the call for exportation abroad. With respect to the first, the intelligence received from all the manufacturing districts coincides in the view that the quantity of stock on hand is at all events not greater than usual; and, with respect to the second, our home consumption is never subject, except in periods of agricultural distress, to material alteration. From neither of these causes, therefore, has the grower of wool reason either to hope or to apprehend any thing uncommon; but from the third, he may expect much good or much evil, as the chances turn out favourable or otherwise. A large proportion of the articles which we usually manufacture from wool for exportation, are provided for the consumption of the United States; and the commercial relations of that country, both internal and external, have been in such a state of unparalleled confusion, that every one acquainted with her position for the last twelve months, must perceive that she will take either a *much larger* or a *much smaller* quantity of our goods than in ordinary years. Last year her imports fell so short, in consequence of her embarrassments, that, if she recovers from them in time, her demand will this year be proportionably great to supply the vacuum; but, if those embarrassments still cripple her, it will necessarily be still further diminished. The immense exportation of specie which has lately taken place to America looks auspicious for the restoration of her powers of consumption; and the wool-growers should vigilantly watch its continuance, and be awake if any revulsion takes place, as a pilot would be to the ebbing and flowing of the tide. There is also, another symptom to which he should direct his attention. The chief means which America possesses of payment for our manufactures is her raw cotton, for which we are her principal customers. Consequently, the more our manufacturers consume of her cotton, the greater will be her demand for what we have to send in return; or, to put the proposition simply, a brisk state of our cotton manufactures is a sure prognostic of a brisk exportation of our woollen goods, and, therefore, of a brisk demand at home for the staple.—*Gardener's Gazette.*

TO THE EDITOR.

Middlesex, April 26.

SIR,—In reply to your correspondent respecting the best time to put in mangel wurzel, I beg to say, from the experience that I have had, I consider it to be about the latter end of April or the beginning of May; some cultivators advocate a more early period, but I have observed that if checked by cold weather in its infant

state, it is frequently smothered by annual weeds, before it will begin to grow again, or is high enough to distinguish the drills for hoeing. There is certainly one advantage in early sowing, that is, the land is sufficiently moist to cause the seed to vegetate, which is often delayed by warm dry weather in May, and makes the crop too late for a good one. When mangel wurzel was first begun to be grown in this country, it was generally cultivated under the Northumberland, or ridge system, an expensive process, and not well adapted to the growth of the plant; the land being so exposed to the sun and air it becomes so dry that the seed will not grow without an abundance of rain. Many farmers who were first opposed to mangel wurzel, are now convinced of its value, and I will just give them my opinion how it may be advantageously grown on strong soils, in lieu of Swede turnips for stall-feeding. Manure well a clean stubble in the autumn, plough it before Christmas, and in the present month, when in a congenial state, not too wet or too dry, scarify, harrow, and roll to a fine tilth, drill not closer than two feet intervals 4 lbs. of seed per acre, and there is every reason, under judicious management in hoeing, to be rewarded with a valuable crop.

I am, Sir, your obedient servant, W. B.

POOR LAWS—IRELAND.

EXTRACT FROM THIRD REPORT OF GEORGE NICHOLLS, ESQ., TO HER MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR THE HOME DEPARTMENT; CONTAINING THE RESULT OF AN INQUIRY INTO THE CONDITION OF THE LABOURING CLASSES AND THE PROVISION FOR THE RELIEF OF THE POOR IN HOLLAND AND BELGIUM.

OF THE RELIEF OF THE POOR.

The institutions for the relief of indigence are numerous in Holland, and consist of hospices for the aged and infirm, orphan houses, workhouses of towns, dépôts de mendicité, or district workhouses, the poor colonies, and private charitable institutions. The funds for the support of these establishments are to a great extent derived from endowments and voluntary contributions, the direct tax not being more than about 1,800,000 guilders, or 150,000*l.* per annum. Many of these institutions, in their structure and appearance, rather resemble palaces than poor houses, and they form one of the most prominent characteristics of the great towns. In Amsterdam especially the most superficial observer cannot fail to be struck with the magnitude and number of these buildings.

Among the classes having ability to labour a state of even temporary dependence is considered disgraceful, and great exertions are said to be made by the labouring population to avoid it. The condition of the able-bodied labourer subsisting on the fruits of his own industry is superior to that of the pauper, both on account of the degradation attaching to a state of dependence, and because the amount of relief given, either by the religious communities, or by the local authorities, is so small as to be barely sufficient for support. But no sense of degradation attaches to the orphan establishments, which are calculated to invite, rather than to discourage dependence. Our visits to these institutions, and to the hospices, enabled us to ascertain that the arrangements for the comfort of the inmates are in every respect so superior to those enjoyed by other individuals of the same class, that it was evident these

institutions presented no barrier to the dependence of the entire class, short of the exhaustion of the funds with which they are endowed.

The dépôts de mendicité, or provincial workhouses, bore so close a resemblance to the old English workhouses, and those established under Gilbert's Act, and to the incorporated houses of industry, formed under local acts in the southern and eastern counties, as to induce a belief that the English workhouses must have been formed upon a Dutch model; but however this may be, the result has certainly been the same in both countries, the evil of pauperism having been increased rather than diminished by these institutions, in which the profitable application of pauper labour has been sought for, rather than the repression of pauperism.

The workhouse of Amsterdam is a vast building, capable of containing upwards of 1,500 inmates. The imposing character of its exterior, the elegance of its entrance hall, and the decorations of the rooms appropriated to public business, were in marked contrast with the aspect of the several wards. The inmates chiefly consisted of the lowest and least moral part of the population of the great cities, who had sought refuge in the workhouse because they had forfeited their claim to regular employment, and the vigilance of the police did not permit them to subsist by mendicancy. The sexes were strictly separated at all times, but the children were in the same apartment with the adults of each sex. The males and females each occupied separate day-rooms, in which the dirt and disorder were very offensive. In these rooms the inmates ate their meals, without any attention to regularity or propriety. Here, also, they worked in the looms, or at other occupations. The first group of men to whom we advanced were seated at a table playing at cards; we found another party playing at draughts, and a third at hazard. Others were sauntering up and down the room, with their hands in their pockets. The women's day-room was a scene of similar confusion. Both men and boys were clothed in a coarse kind of sackings. The chief article of their diet is rye-bread, almost black, and not over-abundant in the quantity allowed, with an indefinite quantity of boiled buttermilk; but they are permitted to work at certain rates of wages, and to spend a certain portion of their earnings at a canteen in the house, where coffee, tobacco, gin, &c., may be obtained. On application for admission, the paupers undergo a strict examination as to their ability to maintain themselves; and while inmates they are rigorously confined, and are not permitted to go abroad, "unless they give positive hopes that, on re-entering society, they will render themselves worthy of their liberty, by diligently endeavouring to gain their own livelihood by honest means."

The establishment at La Cambré, near Brussels, was superior in its internal arrangements to the workhouse at Amsterdam, particularly in the separate classification of the aged, of the children, and of adults, and also in the good arrangement and cleanliness of the sleeping-rooms. The sexes are strictly separated, as is invariably the case in all the other Dutch and Belgian institutions. The inspector-general, M. Ducpetiaux, who accompanied us in our visit to La Cambré, informed us, that by the penal code, a mendicant once condemned to a dépôt de mendicité for begging, may be kept there during the remainder of his life; but, in practice, he is allowed to leave the establishment, whenever the commission of superintendence are satisfied that he is disposed to labour for his subsistence, without resorting to mendicancy.

There are three great workhouses for the whole of Holland, which are situated, one at Amsterdam, another at Middleburgh, and a third in the commonalty Nieuwe Pekel A, in the province of Groningen. Belgium has five great workhouses situated respectively at La Cambré, near Brussels, for the province of Brabant; at Bruges, for the two Flanders; at Hoogstraeten, for the province of Antwerp; at Mons, for Hainault, Namur, and Luxembourg; and at Reickheim, for Liege and Limburgh. Under their present regulations these provincial workhouses, or *depôts de mendicité*, both in Holland and Belgium, are, I think (judging from what we could learn, and what we saw), very defective institutions; and hence seems to have arisen the necessity for resorting to some stricter measures, which ended in the establishment of the poor colonies. In England the defects of the old workhouses were remedied by the introduction of regulations calculated to render them efficient tests, by the aid of which we have succeeded in establishing the distinction between poverty and destitution: for the latter we have provided relief, but we have left the former to the natural development of its own resources. In Holland and Belgium no such distinction has been made, or test established. Their workhouses remain as they were originally formed—nurseries for indolence, and stimulants to pauperism. But in order to correct this evil, the Dutch have had recourse to the establishment of poor colonies, to which all persons found begging (or committing vagabondage, as it is termed) are sent, if able to work, and compelled to labour for their subsistence, under strict discipline and low diet—this is the real use of the poor colonies, both in Holland and Belgium. Had the workhouses been made efficient, there would have been no occasion for these establishments; but the workhouses not being efficient, recourse has been had to the penal colonies, where the test of strict discipline, hard labour, and scanty diet, is so applied, as to be held in the greatest dread by the vagrant classes. All beggars are apprehended by the police; if able to work, they are sent to the penal colonies; if aged or infirm, or unable to perform out-door work, they are sent to the workhouse; and although the discipline of the workhouses is defective, and the management in many respects faulty in principle, yet, with the aid of the poor colonies, they secure the repression of mendicancy.

We were unable, owing to the limited time at our command, to visit the poor colonies of Holland, which are situated in the remote province of Overysel; and the extreme severity of the weather and the badness of the roads (which were described as being almost impassable) prevented our going to Hoogstraeten, although we passed at no great distance from it; but the inquiries which we made enabled me to appreciate the character of these institutions, and confirmed the impressions received from a perusal of the papers of M. le Comte Arrivabene, of the Baron de Hochepeid Larpent, and of M. Ducpetiaux. With respect to the free colonies, we were assured that the expectation of profit which led to their creation had notoriously failed—it could hardly be otherwise, for, to employ the least skilful and industrious labourers on the most sterile soil, first in the condition of serfs, secondly of co-operation, and lastly of independent labourers, with the hope of profit, was an enterprise so inconsistent with first principles that its success was obviously impossible.

In the coercive or penal colonies, to which the able-bodied mendicants are sent, the case is somewhat different; these, as before stated, have

become efficient for the repression of mendicancy. In the workhouses of these establishments one ward is used in common as a dormitory, refectory, and workshop; the inmates sleep in hammocks, and are very coarsely clad. They labour with the spade in the fields, or in making bricks, or at manufactures in the house, under the superintendence of an inspector. Count Arrivabene says, "An account is kept between the colonists and the society in the military style. Each colonist is furnished with a book, in which are entered the work executed daily, the amount of food and clothes with which he has been furnished, and his share of the general expenses of the establishment, and whatever he has received in the paper money of the colony. Guards on horseback patrol the boundary of the colony; rewards given to those who bring back any colonist who has attempted to escape, and a uniform dress are the means resorted to to prevent desertion from the colony. When mendicants are arrested by the 'gendarmérie,' they are permitted to choose whether they will be brought before the tribunals as vagabonds, or be transported to the coercive colony, where they must remain at least one year."

These rigorous measures for the suppression of mendicancy have been adopted in the absence of any acknowledgment of a right to relief, and notwithstanding that a large portion of the relief actually administered arises from endowments and voluntary contributions. This forms an important feature in the Dutch and Belgium system; and if, as I believe, the rigour of this part of their institutions has been caused by the necessity arising out of the imperfect organization of the other institutions, the true remedy would seem to have been, not in the establishment of penal colonies, but in such an improvement of the organization of these institutions as would have removed their defects, and rendered them efficient for the repression of mendicancy, as well as for the administration of relief.

If the modes of relief here briefly described as existing in Holland and Belgium be compared with the system of relief which it is proposed to establish in Ireland by the measure now before Parliament, the latter will, I think, be found to be more simple and complete, and, consequently, to promise greater efficiency. No right to relief exists in Holland or Belgium, yet mendicancy is suppressed in both those countries. It is proposed not to give a right to relief in Ireland, and it is intended to suppress mendicancy—in this respect, therefore, the provisions are similar; but in Ireland it is proposed to divide the whole country into numerous districts of convenient extent, with a workhouse to each, so that every destitute and infirm person will there be within easy reach of adequate relief; and this arrangement is obviously preferable to the various, and in some respects conflicting, modes of relief which exist in Holland and Belgium, and it may be presumed will be more effective in its operation. The example of Holland and Belgium may, therefore, be cited, in addition to that of England, in support of the principle of the Irish poor-law measure proposed by government.

OF THE SMALL FARMS IN BELGIUM.

The extensive manufactures which at no very remote period flourished in Belgium appear to have congregated a numerous population of artisans in and around the great towns. As the scene of manufacturing industry changed, this population was deprived of its means of handicraft employment, and was compelled to resort to the cultivation of the soil for subsistence. This seems to have been the

chief, though possibly not the sole, origin of the system of small farms which still prevails, and which are cultivated by the holder and his family, generally without other assistance. The farms in Belgium very rarely exceed 100 acres. The number containing 50 acres is not great. Those of 30 and 20 acres are more numerous, but the number of holdings of from 5 to 10, 15, and 20 acres is very considerable, especially those of the smaller extent; and to these I chiefly confined my inquiries.

The small farms of from five to ten acres, which abound in many parts of Belgium, closely resemble the small holdings in Ireland; but the small Irish cultivator exists in a state of miserable privation of the common comforts and conveniences of civilized life, whilst the Belgian peasant farmer enjoys a large portion of those comforts. The houses of the small cultivators in Belgium are generally substantially built and in good repair: they have commonly a sleeping-room in the attic, and closets for beds connected with the lower apartment, which is convenient in size. A small cellarage for the dairy, and store for the grain, as well as an oven, and an outhouse for the potatoes, with a roomy cattle stall, piggery, and poultry loft. The house generally contains decent furniture, the bedding sufficient in quantity, and although the scrupulous cleanliness of the Dutch may not be everywhere observable, an air of comfort and propriety pervades the whole establishment. In the cowhouse the cattle are supplied with straw for bedding; the dung and urine are carefully collected in the tank; the ditches had been scoured to collect materials for manure; the dry leaves, potato-tops, &c., had been collected in a moist ditch to undergo the process of fermentation, and heaps of compost were in course of preparation. The premises were kept in neat and compact order, and a scrupulous attention to a most rigid economy was everywhere apparent. The family were decently clad, none of them were ragged or slovenly, even when their dress consisted of the coarsest material. The men universally wear the bleuse, and wooden shoes are in common use by both sexes. The diet consists to a large extent of rye bread and milk; the dinner being usually composed of a mess of potatoes and onions, with the occasional addition of some pounded ham or slices of bacon. The quantity of brown wheat bread consumed did not appear to be considerable. I need not point out the striking contrast of the mode of living here described with the state of the same class of persons in Ireland; and it appears important to investigate the causes of this difference.

In the greater part of the flat country of Belgium the soil is light and sandy, and easily worked; but its productive powers are certainly inferior to the general soil of Ireland, and the climate does not appear to be superior. To the soil and the climate, therefore, the Belgian does not owe his superiority in comfort and position over the Irish cultivator. The difference is rather to be found in the system of cultivation pursued by the small farmers of Belgium, and in the habits of economy and forethought of the people. The cultivation of the small farms in Belgium differs from the Irish, first, in the quantity of stall-fed stock which is kept, and by which a supply of manure is regularly secured; second, in the strict attention paid to the collecting of manure, which is most skilfully managed; third, by the adoption of a system of rotation of five, six, or seven successive crops, even on the smallest farms, which is in striking contrast with the plan of cropping and fallowing the land prevalent in Ireland.

In the farms of six acres we found no plough,

horse, or cart; the only agricultural implement, besides the spade, fork, and wheelbarrow, which we observed, was a light wooden harrow, which might be dragged by hand. The farmer had no assistance besides that of his wife and children, excepting sometimes in harvest, when we found he occasionally obtained the aid of a neighbour, or hired a labourer at a franc per day. The whole of the land is dug with the spade, and trenched very deep; but as the soil is light the labour of digging is not great. The stock on the small farms which we examined consisted of a couple of cows, a calf or two, one or two pigs, sometimes a goat or two, and some poultry. The cows are altogether stall-fed, on straw, turnips, clover, rye, vetches, carrots, potatoes, and a kind of soup made by boiling up potatoes, peas, beans, bran, cut hay, &c., into one mess, and which being given warm, is said to be very wholesome, and to promote the secretion of milk. In some districts the grains of the breweries and distilleries are used for the cattle, and the failure of the Belgian distilleries has been reckoned a calamity to the agriculture of the country, on account of the loss of the supply of manure which was produced by the cattle fed in the stalls of these establishments.

The success of the Belgian farmer depends mainly upon the number of cattle which he can maintain by the produce of his land, the general lightness of the soil rendering the constant application of manure absolutely necessary to the production of a crop. The attention of the cultivator is always, therefore, especially directed to obtain a supply of manure. Some small farmers, with this view, agree with a sheep dealer to find stall-room and straw for his sheep, to attend to them, and to furnish fodder at the market price, on condition of retaining the dung. The small farmer collects in his stable, in a fosse lined with brick, the dung and urine of his cattle. He buys sufficient lime to mingle with the scourings of his ditches, and with the decayed leaves, potato-tops, &c., which he is careful to collect in order to enrich his compost, which is dug over two or three times in the course of the winter. No portion of the farm is allowed to lie fallow, but it is divided into six or seven small plots, on each of which a system of rotation is adopted; and thus, with the aid of manure, the powers of the soil are maintained unexhausted, in a state of constant activity. The order of succession in the crops is various; but we observed on the six-acre farms which we visited, plots appropriated to potatoes, wheat, barley, clover, (which had been sown with the preceding year's barley), flax, rye, carrots, turnips, or parsnips, vetches, and rye for immediate use as green food for the cattle. The flax grown is heckled and spun by the farmer's wife chiefly during the winter, and we are told that three week's labour at the loom towards the spring enabled them to weave into cloth all the thread thus prepared. The weavers are generally a distinct class from the small farmers, though the labourers chiefly supported by the loom commonly occupy about an acre of land, sometimes more, their labour upon the land alternating with their work at the loom. In some districts, we were informed, every gradation in the extent of occupancy, from a quarter or half an acre to the six-acre farm, is to be found; and in such cases more work is done in the loom by the smaller occupiers.

The labour of the field, the management of the cattle, the preparation of manure, the regulating the rotation of crops, and the necessity of carrying a certain portion of the produce to market, call for the constant exercise of industry, skill, and foresight among the Belgian peasant farmers; and to these

qualities they add a rigid economy, habitual sobriety, and a contented spirit, which finds its chief gratification beneath the domestic roof, from which the father of the family rarely wanders in search of excitement abroad. It was most gratifying to observe the comfort displayed in the whole economy of the households of these small cultivators, and the respectability in which they lived. As far as I could learn there was no tendency to the subdivision of the small holdings; I heard of none under five acres held by the class of peasant farmers, and six, seven, or eight acres is the more common size. The provident habits of these small farmers enable them to maintain a high standard of comfort, and is necessarily opposed to subdivision. Their marriages are not contracted so early as in Ireland, and the consequent struggle for subsistence among their offspring does not exist. The proprietors of the soil retain the free and unrestricted disposal of their property, whether divided into smaller or larger holdings. The common rent of land is about 20s. an acre, and the usual rate of wages for a day labourer is a franc (or 10d.) a day.

A small occupier, whose farm we examined near Ghent, paid 225 francs per annum for about two bonniers, or six acres of land, with a comfortable house, stabling, and other offices attached, all very good of their kind; this makes the rent (reckoning the franc at 10d.) equal to £9 7s. 6d. sterling per annum; and if we allow £3 7s. 6d. for the rent of the house, stabling, and other offices, there will be £6, or £1 per acre for the land, which accords with the information we obtained at Antwerp, Brussels, and other places, as to the rent of land in the flat country, the soil of which is generally of the same quality throughout. This farmer had a wife and five children, and appeared to live in much comfort. He owed little or nothing, he said, but he had no capital beyond that employed on his farm. We questioned him respecting his resources in case of sickness. He replied that if he were ill, and his illness were severe and of long duration, it would press heavily upon him, because it would interrupt the whole farm-work; and, in order to provide for his family, and to pay the doctor, he feared he should be obliged to sell part of his stock. If his wife and family were long ill, and he retained his strength, the doctor would give him credit, and he should be able to pay him by degrees in the course of a year or two. The thought of applying for assistance in any quarter appeared never to have entered his mind. We suggested that the Bureau de Bienfaisance, or charitable individuals, might afford him aid in such a difficulty, but with evident marks of surprise at the suggestion, he replied cheerfully that he must take care of himself. If a sick club, or benefit society were established among these people, so as to enable them by mutual assurance to provide for the casualty of sickness, the chief source of suffering to their families would be obviated, and there would be little left to wish for or amend in their social condition.

The Belgian peasant farmer above described is not very different from the small Irish occupier as respects his position in society, but he is in a far better condition as regards the comforts and conveniences of life. The cause of this difference is, I believe, to be found in the more skilful system of culture pursued by the six-acre farmers of Belgium, in the rigid economy which characterises them as a class, and in the persevering industry, providence, and forethought which enable them to adjust their limited resources to their wants; and the first step to the improvement of this important class in Ireland must be, I think, to endeavour to assimilate their farming ope-

rations, and agricultural and domestic management, to that of the same class in Belgium.

It is not here necessary to enter into a consideration of the comparative merits of small and large farms, it being notorious that farms of very small extent abound in all parts of Ireland, in some districts indeed, almost to the exclusion of any other; and that any attempt at a rapid consolidation of these small holdings would inevitably produce misery and suffering, for which no adequate remedy has ever yet been devised. Extensive changes of this nature cannot be successfully undertaken without special reference to the moral and social condition of the people, and the obstructions which arise from fixed habits and old social arrangements generally render great organic changes impossible, excepting in the lapse of years. But an improved management of the small farms in Ireland would afford the means of increasing the domestic comfort and elevating the social condition of the cottier tenantry, and would facilitate the progress of whatever other changes may be regarded as likely to promote their general well-being, because it will be accompanied by an improvement in the habits of the whole class. This would, in fact, be beginning at the lowest point of the scale, improved management in the small farms would bring increase of capital, and improved habits among the cottier tenants, with the increase of capital will come the desire to extend their holdings, and thus will arise a tendency to consolidate occupancies for the employment of increased capital, which the vast extent of now waste but reclaimable land in Ireland will greatly facilitate. An increase of agricultural capital will speedily act upon all the other sources of industry, and thus the demands of the home market for agricultural produce will be augmented, while for all that is produced above that demand the markets of England will be open. To begin with the improvement of the small cultivators seems, therefore, to be necessarily the first step towards ameliorating the condition of the Irish people; and, the example of Belgium is important, as showing what may be done in this respect by adopting an improved system of cultivation.

The establishment of a poor-law in Ireland, by removing the burthen of supporting mendicancy which now presses most injuriously and almost exclusively on the class of small cultivators, will greatly facilitate the improvement of their condition, and afford them relief and encouragement; but the poor-law alone will not effect the necessary ameliorations, which can only be accomplished by a combination of efforts, of which the establishment of a poor-law is one, possibly it is the chief; for a poor-law will unite the interests of the other classes with the well-being of the poorest, and thus secure for the worst educated and least intelligent, and therefore the most dependent portion of the community, the sympathies and the assistance of the most competent and intelligent of the middle and higher classes. The poor-law will in this way, I believe, become the means of combining the now discordant elements of society in Ireland, for the promotion of the common interest, and especially that of the humblest classes. But the first impulse in the career of amelioration must be given by the gentry and landed proprietors, who must unite in promoting improvements among their tenantry, as well as in carrying out the provisions of the law. Ignorance and prejudice may possibly arouse opposition, or interpose delay and occasion disappointment; but let them not be weary of well-doing. The improvement of the condition of their dependants, not less than the security of their own interests, ought to inspire a spirit of perseverance

superior to casual discouragements; and it should never be forgotten, that without such efforts on the part of the Irish gentry, the future presents but a dreary prospect of discord and demoralization.

In conclusion, I have to assure your lordship that I saw nothing either in Holland or in Belgium calculated to shake my conviction of the sufficiency of the workhouse as a medium of relief and as a test of destitution; and I am satisfied that it might be introduced with advantage into both those countries, which would then be enabled to dispense with the cumbrous, and in many respects objectionable machinery of their poor colonies. Of the applicability of the union and workhouse principle to Ireland I have seen nothing to excite the least degree of doubt, but on the contrary, much that is confirmatory of the views detailed in my previous reports.

I have the honour to be, my lord,
Your lordship's obedient and faithful servant,
GEO. NICHOLLS.

THE DURATION OF ENGLISH COAL.

In the fifth edition of Mr. Bakewell's *Introduction to Geology*, just published, there are some remarks on the duration of English coal, in addition to the observations made in the former editions of the work, which were quoted in evidence given on the subject in a committee of the House of Commons. After noticing the report of the committee, which estimated the annual consumption of coal in Great Britain at twenty-two million seven hundred thousand tons, Mr. Bakewell proceeds to observe:—

“The increasing demand for coal in the iron furnaces, and for steam navigation and steam carriages, will probably soon raise the quantity of coal annually consumed to thirty millions of tons, without adding to this ten millions of tons for coal left and wasted in the mines. A better idea of the consumption of coal will, perhaps, be formed by stating the quantity of coal burned in the furnaces of one house only (Messrs. Guest, of Merthyr Tydvil, in Glamorganshire), which is 970 tons per day, or 300,000 tons yearly; the amount of iron produced is 50,000 tons. This is a larger quantity of iron than was made by all the furnaces of Great Britain and Wales in the year 1760, and exceeds the quantity of iron at present made in Scotland, which in 1827 was only 36,500 tons. Surely when such an immense quantity of coal is required for domestic use and manufactures, it cannot be wise to encourage, or even to admit, the export of coal to foreign parts. The coal so exported, exclusive of that to Ireland and the colonies, is 500,000 tons annually. The duty on exported coal was entirely taken off in 1835, to satisfy the great landed proprietors in the north of England. I have before stated that the coal in Northumberland and Durham would at the present rate of consumption be exhausted in 350 years. An agent of one of the northern proprietors, in his evidence before the House of Commons, extended the duration of the northern coal fields to 1,727 years, estimating that there remained 732 square miles of coal in Northumberland and Durham still unwrought, and that the average thickness of the coal is twelve feet. In this calculation it seems to have been assumed that each workable bed of coal extends under the

whole coal field, but many of the best and thickest beds of coal crop out long before they reach the western termination of the coal districts, or are cut off by faults or denudations. Professor Buckland, in his evidence on this subject, estimated the duration of the coal at the present rate of consumption to be 400 years. Professor Sedgwick, who is well acquainted with the coal strata of Northumberland and Durham, and had examined persons of great experience, gave his opinion respecting the duration of the coal in these counties as follows:—“I am myself convinced that with the present increased and increasing demand for coal, 400 years will leave little more than the name of our best coal seams;” and he further adds, “our northern coal field will probably be on the wane before 300 years have elapsed.”

Mr. Bakewell concludes his remarks on this subject by observing that his former anticipations, that improved methods of burning coal would be discovered, have been realized to a great extent; in proof of which he alludes to statements made at the last meeting of the British Association at Liverpool, of the use of the culm or dry coals of South Wales, by employing the hot blast, in smelting ironstone, which coal it had formerly been attempted to use for that purpose without success. “If,” continues Mr. Bakewell, “the use of the hot blast is found everywhere to succeed, the consumption of coal in the iron furnaces will be reduced one half. It may, however, be doubted whether this reduction will equal the increasing demand for coal for steam-vessels and railroad carriages, and the various manufactures of Great Britain.”

LIQUID MANURE.

We have heard a great deal of the value of this application of late years, and certainly coincide with those who recommend the hoarding-up of every particle of every substance, liquid or solid, which can be converted into vegetable food, but though the drainage of the mixens and dunghills (for such is usually styled *liquid manure*) may be extremely useful, it should be understood that it cannot become a substitute for the solid matters (or *spit dung*), which remain after the fermentation of the heap, since it contains all the saline and soluble materials that are washed from those matters; and therefore differs much from them in the chemical arrangement of its constituents.

However, before I proceed to particulars on this head, it will be desirable to refer to two papers which appeared some years since in the *Horticultural Register*. One, on the advantages of using *cow-wash*; and the other, on *liquid manure*: by Mr. Stafford, of Willerstepy. In the former, there is the following remark:—“I am satisfied, if the farmers in this country were to have a barrel sunk in one corner of their cow-houses, and the wash drained into it, and with a water cart, or other means, apply it to their land in moist weather, they would find their labour would not be lost.”

Mr. Stafford stated that his practice originated in a former dispute about manure, (a circumstance too common in large establishments), which induced him to economise the fluid that had drained away and was lost:—“I at once put down a pump which supplied me with liquid manure from a dung yard,

in which not less than thirty head of cattle were kept: I set it down as a standing rule, that this was always to be attended to in the autumn and winter months. This had not been practised more than twelve months before I found myself independent with respect to manure." * * * "Winter is, without exception, the best time to apply it to advantage; and although it has been doubted whether its fertilizing properties are not carried off by heavy rains, I am confident that this is not the case: upon the principle of filtration, we may rest on this point. I have often been sorry to see farmer's teams driving up and down the country for lime to apply to old tilled land, and at the same time this liquid manure was running to waste, and was called a nuisance."

If the economising of the fluid from cow-houses and farm-yards, be an object, there is no recipient of the drainage so effectual as the cemented tank, which was described in a late number of the *Farmer's Journal*. Nothing could be more easy than to construct drains by which the fluids might be conducted to the tank, and when once deposited within that water-tight, underground vehicle, not a particle would be lost either by leakage or evaporation. Decomposition also would proceed therein very slowly, inasmuch as the agency of light, and air, and frost, must be comparatively precluded. A pump of ordinary structure could be put down at a trifling expense, but with the precaution of not sinking the feeding pipe too low, because a sediment will naturally be deposited at the bottom of the tank which would clog the action of the pump. This matter ought to be taken out occasionally; and being mixed with soil and lime it would form a most rich compost for cabbages, and all the *brassicæ*.

In respect to solid and liquid manures, the differences between them is very considerable. The solid, reduced substances of the dunghill, contain that peculiar product of vegetable and animal fermentation, now called *humus*—which, chemically, may be considered an hydro-carbonous oxide—the pabulum of vegetative life; but, in the reduced mass of the dunghill is found, mixed with portions of semi-decomposed vegetable remains of alumen, chalk, sand and iron. This mass is the best and most perfect manure for the farm and garden; and, when worked in the land by the plough or spade, and subjected to the stimuli of living vegetation, is converted into nutritive aliment, and earth.

Liquid manure is formed chiefly of the urine of animals, and hence it contains much of those energetic saline matters, ammonia-potassa and soda, chemically united with muriatic and acetic acid. It should, therefore, be applied with caution, and largely diluted. If suffered to remain for some months in the tank, and sprinkled in February over grass-land by a machine similar to that used for watering roads—especially if a small proportion of soot be mixed with the liquor, or be previously sown over the turf—the most beneficial effects may be expected. If used fresh, it will be prudent to saturate a body of earthy sods with it. In a few months, after turning the heap once or twice, a fund of valuable manure, for either field or garden, will be formed. I never yet could satisfy myself that liquid urinous manures, applied *as such*, ever did good to growing vegetables: as a wash over fallows, or plots out of crops, it may prove extremely serviceable; but it ought never to be considered a substitute for *manuring*; for such it can never prove. Before the diffusion of chemical science muriatic of ammonia (*sal ammoniac* was prepared from the urine of the camel), I perfectly recollect the huge conical masses of Egyptian *sal ammoniac* which formerly were imported. Subse-

quently, during the late war, that chemical salt was manufactured in large quantities from the fluids collected in the French prisons. In Bristol, smelling salts were thus prepared to a considerable extent. Now, in this period of refined, economic science, the refuse of the gas works is made use of for a similar purpose; and therefore, that which was sold at 3s. per pound thirty years ago, can now be purchased at *ninapence*, and even of superior quality. The lime refuse of the gas works becomes an excellent liquid manure; and, as it contains also much sulphur, in a state of solution, might be extremely efficacious in driving away destructive insects. Every day, and every fact, should instruct the farmer, and make him sensible of the advantages to be derived from science: heretofore he has despised and rejected his best friend and most kindly coadjutor. The day, it is to be hoped, approaches, when, with the extension of agricultural societies (not political bodies in disguise), a knowledge of principles will be sought for, and the means of philosophical education duly provided. AGRICOLA.

THE LATE JOHN SMITH, OF SWINERIDGEMUIR, ESQ., FIRST MOSS IMPROVER.—Died, at Swineridgemuir, Dalry, on Friday, the 27th of April in his 85th year, John Smith of Swineridgemuir and Kersland, Esq., Deputy-Lieutenant of Ayrshire, &c. Mr. Smith was a person well known in the county, and we are averse to allow the notice of his death to be confined to our common obituary. In early life, Mr. Smith entered the 95th regiment of foot as an ensign. In 1781 he was in Jersey when the French made their second and last attack on that island, which had long been an object of their desire. On this occasion the French force consisted of 2000 men, and the expedition was under command of Baron de Rullecourt, a man of courage, but of a violent temper. He effected a landing with 800 men, during a very dark night, and took prisoners a party of militia—surprised the commanding officer and magistrates, whom he also made prisoners. He then drew up a capitulation, which he insisted on their subscribing; but though they remonstrated that no act of theirs while under confinement could be held binding, he insisted so imperiously, that they were obliged to comply, to save the town from immediate destruction. He then advanced to Elizabeth Castle, which was garrisoned by British troops, and summoned it to surrender. Here he was met with a stern refusal. The British troops were under command of Major Pierson, a brave officer of 24 years of age, who not only rejected the haughty orders of Rullecourt, but intimated that if the French did not within 20 minutes lay down their arms, they must abide the consequences. The Baron would not listen to this, and his forces soon found themselves attacked with such resolute bravery, that in less than half an hour they were put to flight. In the market place they made a stand, and the gallant Major Pierson, in the moment of victory, was killed by a French officer, who deliberately shot him. The deed was soon revenged, as the officer was shot through the heart by an African servant of the dying hero. At this critical period Mr. Smith was the ensign who bore the King's colours of the 95th. The French were completely defeated, and Rullecourt mortally wounded. This gallant conduct on the part of the British was highly applauded by the nation. A monument was erected in St. Helier's church, at the public expense, to Major Pierson, and the scene of his death became the subject of one of Copley's pictures. The surviving officers stood for their portraits to the artist, and Mr. Smith is represented as holding the colours of the victorious troops. The picture was engraved by Heath, and is now become scarce. The likeness of Mr. Smith can be readily recognised, and by those who recollect him in his younger days is said to be good. After his

return from the army, Mr. Smith devoted much of his time to public local affairs, in laying off and improving lines of road, and in discharging the duties of a Justice of the Peace. He also turned his attention to agricultural improvements, and was successful in discovering the principle by which moss could be converted into good vegetable mould. This was communicated to the Board of Agriculture, and a full account of his method of improvement is given in the *Encyclopædia Britannica*, under the article "Agriculture," to which we refer. He received the thanks of the Highland Society of Scotland, and was presented by that patriotic body with two silver cups, bearing an appropriate inscription. He had considerable talent for historical and antiquarian research, and was possessed of a stock of knowledge, both literary and scientific, far beyond the ordinary country gentlemen of his day. In the year 1801 he purchased the mid superiority of the barony of Kersland, which had remained with the ancient family of the Kerrs for upwards of 500 years. As a proof of the estimation in which he was held in the district, about 3 years ago he was presented with a piece of plate, to which 300 individuals had contributed. This was given to him as a mark of respect and of gratitude for his public services, a distinction which it is the lot of few to attain, and which, now that the receiver is gone, it is a pleasing duty to record. In 1822, Mr. Smith was admitted a corresponding member of the Society of Antiquaries of Scotland, and he was one of the earliest Balloted Members of the Maitland Club, to which society in 1835 he contributed the "Records of the Burgh of Prestwick, with illustrative notes," an interesting volume, which throws light on the manners and customs of the people of the 15th and 16th centuries.

MR. MENTEATH OF CLOSEBURN'S BIRTH-DAY.

[FROM A CORRESPONDENT.]

Tuesday the 15th inst. being the birth-day of C. G. Stuart Menteath, Esq., of Closeburn, the tenantry and respectable tradesmen connected with the estate met to dinner, at Brownhill, as has been usual, in honour of the event. The muster was stronger than it had been for several years previous, and six new, staunch members were initiated. This was more than was anticipated, considering the near approach of a banquet of a far higher scale and order, that is shortly to be given to the same worthy and honourable gentleman. Mr. William Smith of Barscar, was unanimously called to the chair; supported on the right by Mr. Laurie, Auldgirth, and on the left by Capt. Smith, Cample Green; Messrs Henderson of Birswick and Graham of Lime Bank, were elected croupiers.

Upon the removal of the cloth, Mr. Smith gave, "The Queen, God bless her," with all the honours; "Lord Minto and the Navy," "Lord Hill and the Army," "Her Majesty's Ministers," all of which were drunk with the honours.

Mr. SMITH then begged leave to propose the toast of the day, and was sorry that that task had so unexpectedly fallen upon his shoulders, merely because he was inadequate to do it justice, and as any attempt on his part even to draw an outline of the features of the character of unquestionably the most popular gentleman in the county, might, in a degree, throw into the shade what should ever be a living picture in the mind's eye of those present, who had seen it so well drawn by masterly hands on former occasions—by several gentlemen who had occupied in their turn, the chair that he had been honoured with that day; however, he would be borne out, not only by every one present—for the same sentiment prevailed throughout the whole county—that whether Mr. Menteath's character was viewed as a patriot, as an enterprising and successful agricul-

turist, or as an indulgent landlord, he was surpassed by none and equalled by few. He therefore begged leave to dedicate a brimming bumper to his health, long life, and prosperity—with all the honours—(*Loud and long cheering with one cheer more.*)

Mr. HENDERSON, croupier, proposed the health of a lady who, by her moral and domestic life, set an example worthy of the imitation of many living in a far lower sphere of society, and whose kind attention to the poor of her parish declared in legible characters the charitable spirit that reigned within. "Mrs. Menteath"—with all the honours.

The croupier then gave, "The Young Laird of Closeburn," a son in every respect worthy of such a sire—with all the honours.

The Countess of Mar," by the croupier. Though now removed to a considerable distance from the place of her nativity, still her name was held in high respect and fondly cherished in the bosom of every true Closeburnian—with all the honours.

Capt. SMITH, Cample Green, gave "Miss Menteath, and the other branches of the family." He alluded particularly to the many and inexpressible benefits that flowed from the female school she (Miss M.) had instituted in the parish at her own personal expense, and the debts of gratitude that were due to her by every one that took an interest in the education and morality of the rising generation—with all the honours.

The CHAIR—"The Lord-Lieutenant of the county;"

"Mr. Bennett, the minister of the parish."

Mr. MACKENZIE gave, "Dr. Mundell, the faithful and impartial instructor of his youth."

"The Tenantry of the Closeburn barony," by Mr. JOHN COLTART.

Mr. HENDERSON of Birswick returned thanks.

Mr. LAURIE of Auldgirth gave, "Mr. Watt, factor upon the estate of Closeburn."

Mr. WRIGHT, Gate, gave, "Mrs. Watt."

Mr. GRAHAM of Lime Bank—"The Sheriff of the county."

Mr. MACKENZIE proposed the health of a gentleman now resident some thousand miles from Closeburn, the place of his birth—he was an honour to the place of his nativity—he had no direct patron by birth, and his proud and independent spirit at once reprobated and scorned the idea of becoming truckler or sycophant to forward his views by that means when it had been denied to his individual merit, he therefore accepted an appointment in New South Wales, and was now honourably reaping the fruits of his labours. But, perhaps, the most amiable trait in his character was his strict attention to the feelings of his aged mother in the way of correspondence,—he need only mention that gentleman's name to be assured it would be most cordially responded to by every one present, "The Rev. Kirkpatrick Dickson Smith." (*Much applause.*)

Mr. LAURIE, of Auldgirth, proposed, "Mr. Leny, of Dalswinton, a good and considerate landlord."

Mr. PETER DALZIEL, Thornhill, gave, "Mr. McDonald, lessee of the Closeburn woollen manufactory." He rejoiced in the near prospect the inhabitants of Cample had of being industriously employed, adverted at some length upon the results that were likely to follow from such a course, and he wished it had been Mr. McDonald's good fortune to have been present that evening at their festive board. The assemblage of such a strong band of happy yeomen would have forcibly conveyed to his mind what sort of a landlord he was about to live under. (*Received with applause.*)

Mr. WRIGHT, Gate—"The Tenantry of Mansfield."

"The Duke of Buccleuch," by Mr. JOHN COLTART.

"Major Crichton," by Mr. MATHIESON, Roschill.

"The Labourers and Mechanics upon the Estate," by Mr. JOHN IRVINE, Closeburn Mains.

Mr. MAXWELL, Architect, Lintmill, returned thanks, and, in a very able and comprehensive address, gave, "The Improvement Society of Dumfries."

Captain SMITH gave, "Mr. Smith, of Barabay, and happy to see him again in Closeburn."

Mr. IRVINE gave, "Mr. Laurie, of Auldgirth," a

gentleman whose presence he could safely aver ever afforded happiness and delight, to all assembled at the annual dinner, where Mr. Laurie was never found absent except when engaged on urgent business.

Mr. MACKENZIE hoped it would not be considered intrusion in him proposing another health, and it was that of a young gentleman that had been known to the most of them present from his childhood; he was now earning a respectable livelihood in a far distant land, and with credit and honour to himself, and he hoped he would yet return to his native vale, with a comfortable competency and unimpaired constitution, to spend the latter days of his existence in the society of his friends, and be a sharer with them in every social and manly sport—he gave Mr. William Mathieson, at present domiciled in the Island of Tobago.

A great many more toasts were given, but we are reluctantly compelled to suppress them. The evening was enlivened by the musical powers of Messrs. Milder, of Liffenstone; Hastings, Closeburn Hall; Niven, Barnmoor, and Kirkpatrick, Rigg. Altogether a happier evening was never spent, and the company was much indebted to the chairman and croupier for the able manner in which they discharged their respective duties, and a cup of thanks was pledged to them as an earnest of the party's gratitude.

The dinner was in Mr. Fisher's best style, with every vegetable the season could afford, while the wines and spirits reflected equal credit upon "mine host" of Brownhill.—*Dumfries Times*.

GAYFORD VERSUS J. D.

Sir,—A controversy having sprung up between the above parties respecting the analyzation of soils, I am induced to make a few observations upon the subject. I am, or expect I am, a practical farmer, knowing nothing of gases or chemistry. Mr. Handley's "fortuitous results" or the "system of Decondolle"; but so far as my knowledge goes, I think both parties have gone too far, J. D. says "cool and dispassionate reasoning always answers the purpose best," but he must allow me to say he took up the subject in rather a discursive manner, and quite at variance with such an hypothesis, for to charge a man with importing "one of the most extravagant ideas ever entertained by a human being," is not that "dispassionate" mode of setting up one's opinion in opposition to another's, which J. D. recommends as the most likely means of eliciting the truth upon any particular subject. The impression made upon my mind, when I read Mr. Gayford's speech, was that he was going too far, that it was impossible for soils to undergo analyzation *immediately* previous to sowing, but his subsequent observations in the Farmer's Magazine clears up that point, his meaning was before any RADICAL improvement was set about, the soil should be analyzed in order to know, in what it was deficient or superabundant, that it might be supplied, or diminished as it should require.

Agriculture is now a fashionable employment and conducted upon scientific principles, and whilst the "march of mind" is making such rapid progress in the system of "farming" there are sure to be extravagant notions engendered but let not prejudice crush them soon as formed, let us not denounce them as the most extravagant ideas, but "coolly" and "dispassionately" examine them and see if they are to be brought into practice. I dare say our forefathers would have thought it an "extravagant idea" indeed if they had been told of travelling thirty miles in the hour, and that too without horses, even more than we of the present day do, of chemical processes applied to land.

CLOD.

May 31.

THE CORN LAWS.

Sir,—In reading in your May number two articles on the corn laws, one by Thomas Clowes of Caister, the other embodied in a petition from the farmers and yeomen of Cambridgeshire, I could not help contrasting the probable effects, and the apparent contradiction of the two. The sound, sensible, and intelligent observations of Mr. C. appear to me so thoroughly to the point, they suggest a remedy at once just, simple, easy, and to my thinking effective, that I cannot refrain from a line or two inviting attention to them. I am one who would scorn to be protected at the expense of my neighbour, who am thoroughly convinced of the fallacy and deceptiousness of the present gradulatory scale of duties, but am not so rash as to assume that the superior skill of the British farmer will enable him, with his additional costs of production, to compete with the continental grower without an equivalent protecting duty. Such duty to be fixed and final, that he may know on what to found his calculations and contracts with his landlord and other parties. I do most cordially concur with Mr. C. in his opinion that the present corn laws are made for landlords and not for tenants; and, I cannot help regretting that a body of farmers should suffer themselves to be so carried away with party feeling, as to make the burthen of their petition a declamation against ministers, instead of a plain matter of fact statement of their practical convictions of the inefficiency, or bad tendency of the laws in question.

While I see so conflicting an opinion among us, as to the nature and causes of our malady, I am almost in despair as to the remedy, and as "the knowledge of a disease is half its cure," I do beg to call the attention of your readers to a little close thinking on the subject of the operation of the corn laws. What class in society they serve, and what they deserve? The question appears to me to be all-important, as involving the security of the whole capital of every tenant who enters on his occupation with a lease. It would be easy to prove the inefficacy of the law which aims at securing by act of parliament, a certain price for corn. The British farmer has found to his cost the folly of trusting to such a fallacy. Why should a principle be adopted for the protection of corn different from that adopted for all other things? Is it wise? Is it just? or has it been efficacious? But I am going farther than I intended. I merely wish to call attention to that which I think every man's sober reason will show him to be the bad working of the present laws.

I am Sir, your's &c.,
Starston, May 22.

G. T.

LORD WILLOUGHBY DE ERESBY'S PEAT-COMPRESSING MACHINE.—A short time since we had the pleasure of witnessing the operation of this beautiful hand machine. Its object is one of great national importance, inasmuch as it adds to our stock of fuel; and in countries where coal is scarce, and peat abounds, it will be an invaluable blessing to the inhabitants. The peat harvest is long and precarious, because subject to all the vicissitudes of weather; months often elapse ere the peat is sufficiently dry to burn. Lord Willoughby's machine receives the peat from the bog after it is moulded by hand into a form resembling a brick; it is placed therein, and all the moisture is pressed out of it at one operation; hence months are gained by this process, simple in its operation, and of the highest importance as to its utility. His lordship reserves no patent right, but offers it to the public, who are much indebted to the noble lord for his valuable invention, which makes peat as useful as coal.—*Evening paper*.

AGRICULTURAL REPORTS.

GENERAL AGRICULTURAL REPORT FOR MAY.

The old saying so much in vogue amongst those engaged in agricultural pursuits, that "A cold May air for the barn bids fair" has been, the greatest part of this month, fully exemplified; we having been visited with keen winds vibrating between the north-west and north-east, which have materially retarded the progress of vegetation; still, however, notwithstanding all the before-mentioned atmospheric obstructions, we have to intimate, that vegetation is quite as, if not more, forward, than could have been reasonably anticipated, when the prevailing circumstances are taken into consideration.

The quantity of rain which has fallen, during the whole of the month, has been but trifling, compared with that which we have noticed in many corresponding seasons. A great scarcity of grass has been complained of, amongst graziers and hay farmers; but we consider that, judging from the rapidity with which the grass has grown during the last few days, the hay harvest will not be by any means so deficient as many persons have anticipated.

With respect to the general appearance of the corn crops, we have to intimate, with much pleasure, that, although the wheat plants have had to contend against a most severe and protracted winter, they are quite as strong and healthy as could possibly be expected, and that very few failures can be noticed.

The early fruit trees exhibit a good promise for an abundant crop of fruit, and nature appears to have attired herself in her richest apparel, and to have assumed her wonted gaiety and loveliness.

Depastured sheep and beasts, with the ewe flocks have fared, with the assistance of a little artificial fodder, tolerably well; whilst the fall of lambs has been great.

The proceedings of this month as affecting the agricultural interest have been of a very important character, inasmuch as they show to demonstration, that our farmers have completely refuted the charges which have been so often and unnecessarily levelled against them, by those who are by no means competent to judge of the circumstances immediately connected with farming, that they have fallen into so lethargic a state, as to its being impossible to extricate themselves, by their own individual exertions. As an instance of our farmers being alive to these spirit-stirring times, we have only to refer to the late meeting of agriculturists, at the Freemason's Tavern, for the formation of a "British Agricultural Society." This we cannot do without feeling proud that such noblemen as the Duke of Richmond and Earl Spencer should honour the society with their justly appreciated support. That the formation of this society will be a great bulwark—if we may so express ourselves—to agriculture, no one appears to entertain the slightest doubt. Let but our agriculturists give their best support and attention to this society, and sure we are, that agricultural science will, in a very short period, be advanced to that state of perfection, which cannot now be even thought of. Look for instance, at the great success of the Highland Society of Scotland, and see what wonders have been achieved, by the exertions which have been made by its supporters, not only in bettering, in an eminent degree, the condition of the farming popu-

lation, but, also, in bringing agriculture to a high state of perfection.

In turning our attention to the prospective condition of our agriculturists, it is with no ordinary degree of satisfaction that we can state, that they appear to us, very promising—we having but little doubt, that much benefit will be derived, from the establishment of the agricultural society; and that the present prices obtained for most kinds of grain will be tolerably well maintained, for some time hence, although we entertain not the least doubt of the approaching harvest—judging from the present appearance of the plants—being an abundant one.

The following is a statement of the supplies and prices of Fat Stock exhibited in Smithfield Cattle Market, in the course of the month.

There has been in the market, 14,882 beasts, 135,529 sheep and lambs, 960 calves, and 6,232 pigs; about 1,200 of the latter have arrived, by sea, from Dublin and Cork.

About 1,500 Scots, homebreds, and short-horns, which have formed the above supply, have come from Norfolk; 620 Scots, Devons, runts, and Herefords, from Suffolk; 300 Scots, Herefords, runts, and Devons, from Essex; 260 short-horns, Devons, Scots, and Herefords, from Cambridgeshire; 450 shorthorns, from Lincolnshire; 1,100 short-horns and runts, from Leicestershire; 400 short-horns and runts, from Northamptonshire; 100 Devons, Irish beasts, and Herefords, from Warwickshire; 100 short-horns, runts, and Devons, from Oxfordshire; 2,100 horned and polled Scots, by steamers, from Scotland; 1,700 Devons, from Devonshire; 1,200 Herefords from Herefordshire; 220 oxen and runts from Sussex; 160 runts, cows, Scots, and Herefords from Surry; 100 runts, cows, and Scots, from Kent. The remainder of the bullock supply came chiefly from the immediate neighbourhood of the Metropolis.

The prices of meat have ranged as follows: Beef, from 2s. 2d. to 4s. 2d.; Mutton, 3s. 2d. to 4s. 2d.; Lamb, 5s. to 7s.; Veal, 4s. to 5s. 8d.; and Pork, 3s. to 4s. 8d. per 8lbs. to sink the offals.

The supply of sheep has been chiefly composed of South Downs, old and new Leicesters, Kents, Kentish half-breds, old Dorsets and Somersetts, horned and polled, English fed, Scotch, and Welsh sheep; with about 1,900 by sea, from Scotland; 500 by do. from Hull, and 700 from Boston in Lincolnshire.

The general quality of the stock exhibited this month, has been very good, and much finer than might be reasonably expected.

A STATEMENT and COMPARISON of the SUPPLIES and PRICES of FAT STOCK, exhibited and sold in SMITHFIELD CATTLE MARKET, on Monday, May 29, 1837, and Monday, May 28, 1838.

	At per 8lbs. to sink the offals.							
	May 29, 1837.		May 28, 1838.					
	s.	d.	s.	d.	s.	d.	s.	d.
Coarse & inferior Beasts	2	4	2	6	2	2	2	4
Second quality do.	2	10	3	2	2	6	2	8
Prime large Oxen.....	3	6	3	8	3	0	3	6
Prime Scots, &c.....	4	0	4	6	3	10	4	2
Coarse & inferior Sheep	2	8	3	0	3	2	3	6
Second quality do.	3	2	3	6	3	8	3	10
Prime coarse woolled do.	3	10	4	2	3	10	4	0
Prime Southdown do. .	4	4	4	6	4	0	4	2
Lambs	5	0	6	4	4	10	6	8

	May 29, 1837.				May 28, 1838.			
Large coarse Calves ..	4	0	4	6	4	0	4	10
Prime small ditto.	4	8	5	0	5	0	5	4
Large Hogs, ...	3	6	4	2	3	0	3	6
Neat small Porkers ..	4	8	5	0	3	10	4	6

SUPPLIES

	May 29, 1837.		May 28, 1838.	
Beasts.....	2,623		2,729	
Sheep and Lambs	22,010		24,800	
Calves.....	310		219	
Pigs.....	452		684	

By the above comparison, it appears, that the supply of Monday, May 29, 1837, embraced 106 Beasts, 1,790 Sheep and Lambs, and 232 Pigs less; 91 calves more than that of Monday, May 28, 1838.

For the time of year, the arrivals of slaughtered meat, up to Newgate and Leadenhall markets have been extensive; they having consisted of about 300 carcasses of beef; 4,722 do. of mutton, 2,000 do. of veal, and 3,500 do. of pork. In addition to the slaughtered supplies, there have been transmitted to be killed and sold, without appearing in Smithfield, about 120 beasts, 500 sheep, and 90 lambs, the whole of which have been of very superior quality.

NORTH DEVON.

Since our last report the variable state of the weather has produced great changes in the growing crops; in the third week of April the frost was so severe as to produce ice from half to three-quarters of an inch thick, for five or six successive nights, accompanied by heavy falls of snow and hail; cold easterly wind with slight frost, continued the following week, which gave the wheat in every situation a weak and sickly appearance. On the coarse and wet soils, a considerable portion was killed, and scores of acres has been since ploughed up, and sown with spring corn. The rain from the 30th of April to the 5th inst. was followed by three excessively hot days, which changed the look of the country so suddenly as to surpass belief; the wheat returned to a healthy colour and grew quick, and on the best soils has now a very promising appearance, yet on the coarse lands it was weakened so much by the frost in the winter, and in the last month, that the wire-worms are now making great ravages in such parts, and the wheat is, in general, extremely thin, and so very backward that a late harvest (unless some extraordinary change takes place) must be expected. The land having worked so well, the sowing of barley and oats was completed in the most favourable manner; and the genial rain which followed, brought the plants above ground, with a strong and healthy appearance, but the cold east winds and sharp frost which has continued from the 9th inst. to the present time, has given these crops a very yellow and sickly look, though it does not appear to affect the wheat. Clover and other grasses were growing well, and looked as if good shares of hay would be produced, but the late parching wind has stunted them, and rain is much required to bring these crops to maturity. Vetches suffered much by the frost in April, and are in many places very thin; those that remain are healthy, and grow fast. Farmers have begun to cut the most forward, and the supply is found of considerable assistance, as fodder of every other kind is become scarce. The weather is favourable for depositing the sets of potatoes in the ground, and that work is in a forward state. The price of wheat is increasing fast, as the markets are but scantily supplied, and there is little, if any, in the stores of dealers; therefore, we think

the article will be scarce before harvest, as the stocks with the farmers are considerably less than usual at this period of the year; it is only in a few cases that more than a small portion of a rick remains where we used to observe them entire in seasons past, until July or August. Most of the barley and oats offering for sale are of bad quality, yet they have met with more attention lately; and, as the stocks have been much reduced, these articles realize better prices. There was a large show of cattle at Torrington Fair, on the 4th inst., and a considerable number of fat and store bullocks sold at good prices. The show of cattle was, also, large at North Malton Fair; on Wednesday last, there was a great demand for fat bullocks, at prices averaging about 9s. per score; and although there was a free sale for store bullocks, the prices were not equal to those realized at Torrington. The sale for cows and calves in the Fairs and neighbouring markets, has been brisk for several weeks past, at high prices. Fat sheep are worth from 6d. to 6½d. per pound; ewes and lambs are abundant, and selling from 20s. to 28s. per couple.—May 18.

YORKSHIRE.

The month of May is a season of bustling activity and deep interest to the agriculturist, and he generally forms his opinion of the prospects of agriculture for the ensuing part of the year, from the appearances and character of this month. This year it has been very unfavourable. Keen frosts have prevailed in the evenings, and generally cold days have succeeded. On one or two occasions, snow actually fell, and covered some of the highland portions of the country, some inches in depth. A tremendous and continued rain fell on the 21st and two following days, which caused large floods, and did some damage, especially to the meadow and pasture land in the vicinity of the rivers; but has done good in other respects; and the atmosphere feels much warmer. The state of the crops is now a subject of stirring interest, and we shall endeavour to state the truth. The wheats are indisputably thin of plant; much in the furrows has disappeared, and some crops have been ploughed in. The latter are, however, the exceptions. The blade does not look remarkably vigorous, nor is it forward. A few favourable days, however, may at once obviate this, and once let us keep in mind, that the breadth sown in Autumn was above an average—no apprehensions of any scarcity need be entertained, although it is equally certain the prices of that commodity cannot recede, unless means fair or unfair succeed in raising the averages to such a scale as to procure an extensive importation. We are among those who rejoice at the defeat of the deceptive and smuggling attempt to destroy the corn laws, by the grinding of foreign corn in this country, which it would have been impossible to effect without fraud. Barley is looking superior to wheat. The later sown on anything like favourable soils is remarkably healthy, considering the weather, and no injury is yet sustained in the majority of cases. We apprehend the late rains will, however, be too much for low and undrained soils, but are extremely promising, and look better than any other cereal crop. Beans, too, are pretty healthy in most cases, and have come up broad in the leaf, green, and vigorous; but we have seen instances of their being attacked by a beetle, we believe, belonging to the genus *apoderus*, which shatters the leaves considerably. Pastures, meadows, and clover leys are short and stunted, as well as generally overstocked. They are quite as short

as they were last year, at this season, unfavourable as it was generally considered. Lean stock, in consequence, are falling in price, and the demand for them is decreasing. Little is said of the prices of wool, and we expect that the hand-to-mouth policy of last year will again be adopted by the buyers, which, added to the present flag in trade, will, we fear, operate unfavourably on that article. There is a heavy stock of fat sheep still in the country, and the present low and falling prices, induce many farmers to clip them before they bring them to market. We fancy the weather, during the last four or five months, will tend to shorten the fleeces, and render the clips light; but very few are yet deprived of their coats, owing to the coldness of the weather. Swedes and potatoes are being put in. Of the latter, the supply in the market has been plentiful, and as low as 1s. per bushel has been taken. The breadth planted increases every year, and their comparative certainty of a crop, as compared with mangel wurzel, will always make them more generally grown. Farm operations are pretty forward, and where anything like activity has been used, the fallows for turnips are partly or entirely cleared.—May 24.

ESSEX.

We have this month to report as gradual a development of spring as perhaps was ever remembered, cold piercing North and Easterly winds have almost continually prevailed, accompanied at night by a severity of frost most inimical to the progress of vegetation. The whole surface of the country wears but a stunted appearance, but we think we see in the course of vegetation the prospect of a fair produce, should warm weather now follow; the wheats, barleys, oats and beans are extremely good in colour, though remarkably backward; but peas wear as jaundiced an appearance as can well be imagined; grass layers are miserably backward, and though looking green will give but little bulk of hay; unless the weather materially alters, the check most of them had in the spring from the extreme cold, and close feeding will be very much against them; cloverleys where left for hay have a very good bottom and promise well. Though the wheat has suffered irrecoverably in very many instances from the wire-worm barleys and oats seem to have escaped its ravages, which it has directed against our plants of mangel with a most fatal attack; acres have fallen a prey to its ruinous bite, we never remember so much destroyed; on examining where the mangel ought to be we find a yellow leaf or two, and drawing it out perceive it bitten in two by the worm, and thus apparently left by it, for the purpose of similarly destroying others. We have seen many acres in this unfortunate predicament. How precarious is every thing connected with agriculture! exposed to enemies without and foes within, disappointment and often ruin follows where comparatively wealth and happiness were anticipated! how often has the seed been committed to the earth under circumstances of much hope and anticipation, and when the time of harvest has arrived, a fearful blank is all the return the farmer has for his anxiety and the sweat of his brow, but hope beckons us onward, and best is it to say with the poet—

After all 'tis the pleasantest way
To bear up as we can against sorrow,
If we can't fill our pockets to-day
We don't stand a worse chance to-morrow!

The young bine of the potatoe has suffered se-

verely from the frost, but on examining them we do not think it will be at all injurious to the produce. They are excellent in plant where up. At our fair sheep brought fair prices, and we are glad to see the wool markets are by no means lower. Lamb sells pretty well, and mutton middling. The buoyancy of our corn markets begin to make us very fearful that the importation of some considerable quantity of foreign corn must take place prior to our harvest, which must be very late; should that be the case, the price of our own produce must be materially depreciated. It is now some years since the price of wheat was so high as at present, and so little coming on our markets, we are not prepared to say what quantity lies on granary in our county, but from the appearance of the stackyards it is but very limited in the hands of the farmers. A great effort will no doubt be made to "clear out" by the foreign speculators, and this can only be prevented by our holders bringing out all they have at the present remunerating prices, or they may learn to their cost, that a trifling increase of value on what they hold may by an extensive importation be followed by a depreciation, they little anticipated. We rejoice to find that Anti-Corn Law Bantling Col. Seale's Bill, has had the Burking it deserves. It was an attempt we little thought our agricultural representatives would sanction, and we tender them our thanks for the manful way in which they met, and we trust ever will meet all such innovations upon our only protection against foreign competition. We are sorry to perceive no distinct resolution of the English Agricultural Society, on the introduction of new machinery. We are fearful without a Museum the society will be curtailed of much of its practical utility; we have no doubt it would be a fair speculation to provide one, if the offices of the Society are not sufficiently large—and by concentrating in it all the mechanical genius of agricultural machinery, perfected or in models, as well as every old and improved species of corn, grass, vegetables, &c., it would afford an attraction to so vast a body of agriculturists and others, connected with agricultural improvements, as by the imposition of a 1s admission to return a fair remuneration for the necessary expences attending its formation. It may be all very well to give a premium for an ox fatted till it is almost uneatable by any Christian, but we think much more good might be effected by holding out encouragement to the grower of the food, and improvement in the machinery, by which the beast is brought to so high a pitch of perfection.—May 24.

KENT.

Since we last addressed you we have had a continuance of cold winds and frosty mornings, with the exception of a few warm and showery days at the latter end of last month which much improved the look of things generally; since which there has been the same uncongenial weather we had before, which keeps every thing in a very backward state. The wheats certainly have improved much within the last few weeks, and on strong land the plant is good and looks well, but on thin light land the plant is thin, and still looks unkindly, but a change of weather would no doubt work miracles with it. The spring crops generally, as respects barley and oats came up well, but at the present time they are very much in want of rain, and the wire-worm is doing a great deal of mischief in numbers of fields, which it is impossible to prevent, as our remedies are unsuccessful in stopping it. Beans, peas, and tares, are looking well, and they have now the hoe at work amongst them, which employs a number of men at this season of the year when work is not very plentiful, as the barns are for the greater part empty. The potato planting is now

finished, and the number of acres put in is not so large as some years. We are now busy preparing for the forthcoming crop of turnips, and some have already sown their Swedes, although it is generally thought too early, as they are much more likely to mildew. The stock markets have been fully supplied with both beasts and sheep, with very little variation in price from last month. The corn trade with us is very lively and looking upwards, but a great number of growers at the present time have not any to dispose of. The account from the hop plantations is that the plants are looking healthy, and put out strong shoots, but there are exceptions, as will always be the case. The wool trade is in a very dull state, the staplers not caring to buy at the present time.—May 18.

SOMERSETSHIRE.

We have had great changes of temperature in the past month, the rain which fell about two weeks since had the effect of changing the cold chilly atmosphere, into one more congenial to the season; this continued to the 10th, and up to that time vegetation made rapid progress, and the end of winter seemed to be at hand, but again the wind set in cold and barren from the east, and we have had up to the 17th, severe frosts by night, so much so, as in some situations to produce ice, cut down the potatoes, kidney beans, &c., and to check very materially the growth of all kinds of vegetation. On the 17th it became rather milder, and to-day we have a heavy rain from the south, which is very seasonable, for I should say everything is backward with our meadows for mowing, no prospect of the scythe being called into requisition at the usual season; our artificers are come up thick, a ground rain and fine warm weather after, will most likely be followed by a good burthen, but our pastures have been much injured as well as their growth retarded by the frosty nights. Our prospect of apples are, with but few exceptions, almost a blank, and what blossom there is does not look kindly. Beans are looking almost without exception, well, a moderate fall of rain will most likely be the harbinger of a large crop of this corn. Oats and barley, with some exceptions, are come up well, and have a promising aspect; and last, though not least, comes the important crop on which the food of our immense population principally depends; during the fourth month (April) we had looked forward to a great improvement in the appearance of the plant, but were disappointed, it went off more this month than it did in the previous one; some pieces were ploughed up and sown to other crops, and there is much left standing that will not pay for so doing; there are certainly some very good pieces, but some very bad, and a good deal of thin, and this will pretty generally apply to the crop in this county and some parts of Dorsetshire: there is also a general complaint of the wheat being very full of weeds, causing a large demand for labour in weeding; altogether, we have not at this season had a worse prospect in this grain. The comparatively high price of wheat has induced the grower to thrash and bring to market liberally, and it is generally an acknowledged fact that the quantity of grain on hand is much less than last year, this coupled with the prospect of a late harvest, and less than an average crop, makes it more than probable that before the year is out, the duty will be so much lessened as to admit of large importations at the lowest duties. The low price of potatoes (5d. to 6d. per 20lbs.) will have the effect of decreasing the consumption of wheat, but with all these helps it is very doubtful, under any circumstances, whether there will by next harvest be one twelvemonth's consumption of free wheat in the country. Although we have had rather dull markets lately, there is a good demand for wheat at 7s. 9d. to 8s. 3d.; and wheat is still stiffly held for 8s. 6d. Flour, 44s. to 46s. per sack, with a good demand. Barley, grinding, 26s. to 28s.; maling, 30s. to 34s. Beans, 4s. 6d. to 4s. 9d. per bushel. Oats, 18s. to 24s. per qr. Barley, 9s. to 10s.; pork, 8s. to 8s. 6d. per score 20lbs. to sink the offal. Mutton, 6d. to 7d.; lamb, 7d. to 8d.; veal, 5d. to 6½d. per lb. There has been a good demand for poor stock of all descriptions,

and the prices recently have remained stationary. The demand for beef has not been so good as was expected, but there has been lately some appearance of improvement; mutton and lamb come sparingly to market.—May 19.

OXFORDSHIRE.

The weather (with the exception of now and then a day) has maintained a uniformity with the preceding months, the wind blowing mostly from north-west to east, and sometimes for a few hours from south-east, with frost nearly every night, and latterly very severe, consequently vegetation can make but slow progress. The cold nights and hot sunny days are trying to the barley, especially on cold stiff bottoms, causing it to put on a blue and rather an unfavourable appearance; we have seldom known it come up more regular than this season, and could we be favoured with warm rain *in due time*, the crop may yet prove a good one. Oats stand in need of rain; this crop is suffering much from that *destructive* insect the worm. Barley and wheat are receiving injury from the same cause; while in some spots even beans have not escaped the common enemy; as it respects the wheat crop, from all we can hear and see, the failures are numerous, and to a very considerable extent; in fact it may be said to have been *going off*, almost if not quite down to the present period; some (but we should say but not a large breadth) has been ploughed up; where left to stand, barley, pease, and spring wheat have been either drilled or dibbled among it, the latter article has been in great request, and the few lucky holders of spring wheat have made a good thing of it. Two or three years past, when barley sold *better* than wheat, people who had been accustomed to grow spring wheat turned their attention to barley, and this article appeared neglected. Should the baneful malt tax be continued, and the rage for tee-totalism continue, *this* grain will in succeeding years be more extensively cultivated. Winter beans, at the breaking up of the frost, appeared but slightly injured, but a long repetition of frosty nights appear to have weakened them so much that *this season* they will prove a failure. Cattle are regularly foddered, and were it not for the lengthened days, we should almost be led to consider it the third week in *March*, instead of the third in *May*. A large portion of the meadow and uplands intended for mowing have the cattle and sheep still in them, which will keep back the haymaking to a much later period than usual. The lambing season proved in general very favourable, and sheep have been brought out this spring (particularly tegs) in a healthy state, and appear likely to cut a good fleece. We have not heard of much doing of late in wool, but we consider the present prices are not likely to be lower on this side shear day. The frost on the grass appears to have induced a black scour among the sheep and lambs. We have found nothing so efficacious in removing the scour, whether in cattle or sheep, as a little salt being administered for two or threetimes, which has always proved sufficient. Although foddering has been continued to so late a period, hay has advanced but little, and may be bought at from 3s. to 4l. 10s. or 15s. per ton. Corn markets have been steady of late, and wheat and barley are selling for more money than at the date of the last report.—May 19.

GLAMORGANSHIRE.

Barley sowing was completed only at the commencement of this month; the season proved favourable, and the land worked well. The brand looks healthy at present, but will shortly require rain; the early sown seldom remained so long under ground before it vegetated, in some cases full three weeks, and the portion sown at the end of April is at present equally forward with that sown in the first week of that month. The mangels have been set, but if the present dry weather continues much longer we shall be again disappointed in the crop, the seed being more tardy to vegetate than that of any plant we know of. The young wheat presents a more

unpromising appearance at this season of the year than we have ever known. The severity of the winter destroyed a large portion of the plant; at the commencement of March we had still hopes that the crop would recover, but the cold ungenial weather, and the long-continued easterly winds we have experienced almost to the present date, has completely disappointed us, and instead of the plant tillering out and filling up the vacancies, it remains nearly the same; a larger portion has been ploughed up than has ever been known in this county, and the present appearance affords no ground to expect more than two-thirds of an average crop, taking the county generally. The light clover leys, especially those in the best condition, are the worst; fallows on strong land and stiff leys are the best; these look well. The supply of grass is still very deficient, and where there is any hay left stock still remain in their winter quarters. Sheep have done well, and the fall of lambs was good and well saved. In April the demand for all descriptions of stock was brisk, but recently it has fallen off, and the prices are lower. The corn market has improved lately, we consider the stock of old corn much less than usual at this season of the year, the scarcity of straw, and the high price it produced, having induced

the farmers to thrash freely throughout the winter. We heartily congratulate the British farmer upon the establishment of "The English Agricultural Society," as we have ever considered it a great reproach, that, notwithstanding the splendid example of our brethren in the north, the patrons of agriculture in England have so long neglected the formation of a Central Society in London. With regard to the different views taken at the meeting, we have felt regret, but not, we must confess, unmingled with some small degree of satisfaction at the unshaken conviction which seems to be implanted in the minds of the British farmers, that, without protection from the untaxed produce of other countries, all his exertions will be in vain. To this doctrine we most heartily join, but we see nothing opposed to it in the constitution of the society recently formed. The names of a Wellington, Richmond, Spencer, Peel, Cayley, Knatchbull, Graham, &c., &c., coupled with a Webb Hall, and an Elman, repels the mistaken assertion that "*The interests of British Agriculture will be betrayed.*" We would therefore earnestly entreat the members of the Farming Society recently formed, to enrol their names in the Central Society also. For our own part we shall join both.—May 18.

AGRICULTURAL INTELLIGENCE, FAIRS, &c.

PAISLEY MAY FAIR.—The cattle market was but thinly attended, and the show of cattle was very deficient. There was a large supply of Irish pigs; those in good condition about a year old sold from 2*l.* 5*s.* to 3*l.* 10*s.* The show of milch cows was far from good, prices from 7*l.* to 9*l.* For superior farrow cows, from 26 to 28 stone tron, from 11*l.* to 12*l.* was asked; inferior sold from 5*l.* to 7*l.* The general complaint was, that it was a very dull market.

BARNSELY MAY FAIR.—At this fair there was the best supply of horses that has been noticed at this fair on many previous years, being also of a much better quality than usual, and the greatest part of them were quickly disposed of at high prices. The supply of cows was limited; and so early as two o'clock there were few to be seen in the fair, the sale being so quick.

At **NEWBURY FAIR** there was a moderate supply of horses, and, as is often the case, good and useful animals brought remunerating prices, while inferior kinds were dull of sale. The number of cow cattle was unusually large; good cows, with calves by their side, obtained from 10*l.* to 12*l.* each. The stock was nearly cleared off by two o'clock.

HEREFORD NINE DAY'S FAIR.—At this fair there was but a middling supply of cattle; buyers were numerous, and the streets were soon cleared. The prices were hardly so good as those obtained at neighbouring fairs, which may in some measure be attributed to the scarcity of pasturage. Fat cows sold at from 6*d.* to 6½*d.* per lb., and barrens were in great demand; very few of the bullocks brought to the fair were unsold, and steers were also in request. Sheep were eagerly bought up, those in the wool averaging 7½*d.* per lb., and shearings 6*d.* to 6½*d.* Few store pigs were exhibited, and they were disposed of at higher prices. In the horse fair there were more good hacks and superior animals for agricultural purposes than have been lately witnessed, and these fetched their full value.

At **KNIGHTON FAIR** there was a tolerably good supply of stock, but fat cows were not much in request; meaty sheep were readily bought up at 6*d.* per lb.; cows and calves were greatly in demand, other kinds of stock met a heavy sale.

At **HENLEY FAIR** there was more than the usual quantity of sheep; ewes and lambs brought from 32*s.* to 38*s.*; good down tegs, from 30*s.* to 36*s.*; one fine lot of half-bred tegs sold for 40*s.*

DUMFRIES WHITSUNDAY HORSE FAIR.—This fair, which was recently instituted by the authorities

of the burgh, was held to-day; and as field labour is, in several instances, rather in arrear, and not a few animals belonging to the district not in a condition which is not deemed to be suitable for a market, the supply, upon the whole, was considered to be moderately large, and good descriptions were bought up readily and at fair prices. Best draught horses fetched from 21*l.* to 30*l.*, and in a few instances about 35*l.*; inferior kinds according to quality. Prices for ponies ranged from 5*l.* to 15*l.* The show of good roadsters was very limited. A number of the inferior animals remained unsold. The fair, upon the whole, may be regarded as having been tolerably good.

CHIPPENHAM FAIR was very largely attended, and the supply of cattle of every description was abundant. Sales were brisk. Beef sold from 9*s.* 6*d.* to 10*s.* per score: mutton, 6½*d.* to 7*d.* per lb. Lean Pigs were very dear, and a very scarce article. There was a fine show of horses. The market was but thinly attended, in consequence of it being the day after the fair. Trade as last week. Fowls, 3*s.* to 4*s.* per couple; milk butter, 11*d.* to 1*s.* per lb.; whey ditto, 9*d.* to 10*d.*

ROSS FAIR.—There was a good supply of stock, all kinds of which sold well, especially cows and calves. The show of horses was greater than has been known for years, and valuable ones met with good prices. There was but a small show of cheese, and trade was rather dull.

BLYTH FAIR.—There was an unusually large supply of both fat and lean beasts, nearly all of which was cleared away. In consequence of the late refreshing showers, the demand for lean stock was very brisk, and sold at good prices. The supply of clipped sheep was also large, the average price of fat being from 5½*d.* to 6*d.* per lb.

DUN'S MUIR TRYST.—There was a large show of cattle at this tryst, a good number of which were in fine condition. Dealing was remarkably dull at reduced prices, and a large proportion did not find purchasers. Prime fat brought about 5*s.* 6*d.* per imperial stone, sinking offals, and the supply far exceeded the demand. The principal demand was for good cows near calving, and the best sorts of two or three year old stots for grass. The market, as a whole, was considered a bad one; and the low country dealers complained much of the low rates.

KELSO WHITSUNBANK FAIR.—At this fair there was a considerable show of fat cattle. The supply of grazing cattle was small. Two years old brought

from 5*l.* 10*s.* to 8*l.* a-head. There was a poor show of cows, and the supply being inferior to the demand, fair prices were obtained. Good milch cows brought from 10*l.* to 14*l.*, and some of superior quality sold as high as 17*l.* 10*s.* In the horse market there was a poor show of animals. Such as were good sold readily, and brought high prices.

DUNSE HOG TRYST.—The show was not numerous, but excellent in quality, and there was a brisk demand. Bred hogs were from 1*l.* 8*s.* to 1*l.* 12*s.*; half-bred ditto from the Cheviots, from 1*l.* 5*s.* to 1*l.* 8*s.* 6*d.*; grey-faced ditto, from 18*s.* to 1*l.*; Cheviot hogs from 17*s.* to 18*s.* Half-bred ewes and lambs from the Cheviots from 1*l.* 10*s.* to 1*l.* 14*s.*; grey-faced ditto, from 1*l.* 4*s.* to 1*l.* 10*s.* Fat sheep, Cheviot, 1*l.* 7*s.*; bred ditto, 1*l.* 17*s.*

FIELD CARROTS.—The following statement, received from a land-owner in this county, relative to a crop of field carrots produced at Mossknow, Dumfries, in the Autumn of 1837, may, perhaps, tend to make that crop more commonly grown, and particularly when the farmer recollects, that, besides furnishing a winter luxury for his table there is no animal in his yard but delights in and thrives upon the produce. On the 15th of February last, whilst in the progress of planting the first crop of potatoes, a piece of the deepest loam land in the field was selected, and in place of setting potato cuts the manure was covered up with a high ridge: Altringham carrot seed was sown with the hand on the top, and covered with a rake. The land by actual measurement extended to three-fourths of an imperial acre, and was not more wrought or better manured than is usual for potatoes; and in May the crop looked so ill that it was merely hoed up, and replaced by Swedish turnips. It rallied, however, and being twice handweeded during the summer was raised on the 7th of November, and amounted to thirty full single-horse-cart loads of large, clean, well-formed carrots, and ten cart loads of tops. Each cart is computed to hold ten cwt., which is at the rate of twenty tons to the imperial acre, and valued at the low price of 3*s.* 6*d.* per cwt., amounts to the sum of 50*l.* This crop may be considered extraordinary, and capable of being raised only on the best loam land, but after draining and subsoiling, which is now becoming so general, there can be no doubt but the best crops of carrots may be raised upon ordinary good land. If the farmer, however, can only produce the one-half of what is stated above he will pay himself most amply. We believe Mr. Wallace Townsend, of Ayr, raised a similarly good crop of carrots this season.—*Ayr Advertiser.*

DUTY ON HOPS.

It is pretty well known that the stock of Hops has been accumulating upon the hands of the growers for some years past; and they have consequently directed their attention to foreign markets, as the only probable means of reducing the glut. The duty, however, already paid upon their stock prevents them from going into those markets at a price sufficiently low to command a sale; and to enable them to do so, application has been made to government for the drawback upon exportation. The government refused the application to the individual who made it (and who it appeared had 106 bags upon hand of the year 130), on the ground that the hops were not worth the drawback in the English market, and that an act, passed about twenty years ago, under such circumstances, renders the drawback not allowable. Not dispirited by this refusal, 140 hop-growers have presented a memorial to the Lords of the Treasury on the subject, from which we give the annexed extract, for the sake of following it by a few observations, which we think may convey a serviceable hint, both to the hop-growers and the government.

"It is," says the memorial, "at this critical time, that the 10 sec. 57th Geo. 3rd, ch. 87, is thus applied, which aggravates the evil; the spirit of the law is this—it says to the grower, the greater are your wants the less you shall be assisted—if the market were less depressed, if your hops were worth the amount of the drawback to a British consumer, we would give you the drawback on exportation of your hops, but if a British consumer will not buy them at the duty price, (though a foreign market will give you more) the amount of drawback shall be withheld—you shall be tied down to the most disadvantageous sale, and although you could open a foreign market for your relief, we will close it when it would do you the most good."

Now, there certainly are difficulties on both sides of the question; but it seems to have struck neither side that a compromise, might in some measure clear them up. The Treasury do not like to give the holders of old stocks the drawback, because it is more than the hops are worth, and would, therefore, be unfair to the holders of other hops. The holders of old stocks, on the contrary, cannot at home, make even the duty they have paid upon them, nor, without a remission of the duty, offer them at a sufficiently low price abroad. The only way to reconcile these conflicting reasons is, for the government to grant, and the growers accept, a less amount of drawback, so that the objections of the former may no longer exist.—*Gardener's Gazette.*

REVIEW OF THE CORN TRADE DURING THE MONTH OF MAY.

The month of May has ended, and it has not been very favourable to the growing crops. At its commencement the tillers of the soil complained, and not without much reason, of the want of rain, and generally of the ungenial coldness of the nights. The wind varied betwixt North and East, and was attended, in many instances, with a considerable degree of frost; still, to the Winter wheats and Spring crops this unpropitious state of the weather has not, apparently, done any mischief of consequence. No doubt everything is more than usually late for the time of the year, but on heavy land the plants are well fixed, and bear a very healthy appearance. On light and sandy soils, are seen the effects

which long drought universally occasions; and although vegetation, as yet, has not been kindly, no injury of consequence is observable. Even to the pasture fields and marshes the ungenial state of the weather and the lengthened period of the drought have not been so injurious as might have been expected, the swards generally looking green and healthy. If any doubt of danger to the coming crops existed previously in the minds of the timid, however, it must have been entirely removed by the fine rains which fell towards the close of the month. They were certainly much wanted; they have considerably refreshed the growing crops of every denomination, and, as in all probability they may be followed by

southerly and west winds, and by warm weather, vegetation will then become rapid, and the harvest may yet be early and abundant. If we remember correctly, last year, after a long continuance of 'dry weather, the day after her Majesty's birth-day relieved the fields from the effects of drought by a copious fall of rain, and the fears previously entertained of a late and unfavourable harvest were instantly dispelled. From present appearances similar results may be anticipated this season, and the labours in the field, and the intellect and capital embarked in agriculture, will most probably be rewarded by a fair, if not by an abundant, produce of the necessities and luxuries of life. Spring grain, potatoes, and pulse, have all been got into the ground in most excellent condition, and fine weather alone now is necessary to their rendering an abundant produce.

During the last month agricultural labourers having been chiefly employed in the fields, the supplies of all descriptions of agricultural products have naturally been small in the principal corn markets throughout the United Kingdom. Corn speculators generally look for an improvement occurring in the value of the various descriptions of grain in the month of May, as being the natural result of deficiently supplied markets. This, however, has not been the case this season, for, small as the supplies of grain have been, still the demand has decreased in a degree fully as extensive. For this falling away in the consumption of the necessities of life, there is only one intelligible cause, and if it were necessary to bring forward any proof of the fact of the interests of agriculture, commerce, and manufactures being closely entwined together, the state of the corn-trade since the last harvest, and the probable state of the corn-trade until the growing crops can be brought to market, afford an unanswerable demonstration of its accuracy. The commercial convulsions which sometime ago occurred in our trading relations with the United States of America, has been attended by the unfortunate circumstance of a considerable decrease in the consumption, both foreign and internal, of every description of manufactured silk, cotton, and woollen goods. A reduction in the wages of commercial and manufacturing labourers has been the unavoidable effect of this lamentable state of things, and the farmers, and generally the agricultural interest, are, to a certain extent, now subjected to their share of the misfortunes which have, for a time only, befallen their fellow countrymen. The great body of consumers have not at present the means to pay for what, under more fortunate circumstances, would be the regular consumption of agricultural products, and hence alone arises the heaviness in all our markets, and the diminished demand, which, and the taxes of the year, it has been our duty to place before the readers of the Farmer's Magazine. The want of more ready and of more favourable corn markets must still increase the difficulties, into which the manufacturers

have fallen, inasmuch as it must diminish the consumption of manufactured goods amongst those classes of society, who draw their incomes from the prosperity of agricultural pursuits. A short period now however is only necessary to check these evils, and then our expectations of better times will not be disappointed, but realized in their fullest extent.

It is from a firm conviction of the vastly important consequences to agriculture and to commerce, which must arise from their mutual prosperity, that we adhere to our principle of defending the corn laws as they at present exist. Our manufactures are most properly guarded and encouraged by protecting laws, and so likewise are our fisheries and our mineral wealth. In common justice therefore the products of our own fields demand equal protection. The corn law of 1815, and its amendment in 1828 might, or might not be, the best way of giving due encouragement to those, whose pursuits are purely agricultural, but of this we entertain no doubt, that they have been attended with the most favourable consequences to all classes of British society. Agriculture is still only in its infancy, but science yearly sheds new light on this most important national pursuit. During the last quarter of a century, so great has been the progress made in this philosophy, if we may so express ourselves, that the same space of ground in cultivation now produces, either in quantity or in quality at least one-third more than it did twenty-five years ago. This extra produce has increased the wealth of agriculture, and has also added to that of the commercial interest, in as far as it has increased the home consumption of manufactured goods. These important advantages could not have been obtained without the beneficent assistance of the corn laws. Considering the great quantity of land in Great Britain either in a state of nature, or under the worst description of cultivation, it is absolutely necessary, to the public good, that the same degree of protection should continue to be extended to the agricultural classes of British society, but when we look at Ireland this protection strikes us as being more than doubly necessary. There the capabilities of land improvement are perfectly boundless. From the banks of her rich and beautiful rivers many millions of acres of the finest arable land may be reclaimed from a positive estate of nature, and rendered useful, for a century to come, without the expense or aid of manure, to all the necessities and luxuries of mankind. Equal advantages may be obtained from the cultivation of her inland morasses, when capital can with safety be embarked in these pursuits. Already under the fostering protection of the Corn Laws, the home-growth of the necessities and luxuries of life are nearly, if not entirely, equal to our home consumption, and it would be no mark of positive wisdom to purchase from foreign nations articles which we can so profitably produce at home. The repeal of these laws would put a bar to future agricultural improvement, and, though it might for a few years occasion an

increased foreign demand for British manufactured goods to the value of perhaps one million sterling annually, still the injurious consequences to agriculture of such an act would reduce the value of manufactured goods consumed at home in a far greater degree; would throw an immense number of our industrious artisans entirely out of employment, and would deprive others of that amount of wages, which is absolutely necessary to their comfortable subsistence. We may perhaps be considered too sanguine, but still we cannot avoid reflecting on the arrival of the period when the United Kingdoms will, as they once were, again become a great corn-exporting empire, when our own West India possessions, and many of the rich and populous States, both of North and South America, will draw annually supplies of grain, and of other necessities of life, from our shores. Then will we enjoy the only and real wealth of nations, *a productively-employed and contented population*. No speculative theories can be placed in the scale against these positive, present, and prospective advantages, and the doctrine of *leaving well alone* was never more applicable to any subject than it is at the present moment to the state of the rapidly-improving agriculture of the United Kingdom.

When we consider that Barley pays nearly one quarter of the national expenditure, surely it is not unnatural to expect that this article, in a manufactured state, should at all events in this country be placed in a position equally advantageous to its proprietors, as is afforded to the proprietors of foreign grain, when imported in a manufactured state into these kingdoms. Astounding as the fact may be, however, this is not the case. We now allude to British-made spirits. The importers of foreign-made spirits are by law enabled to bond their property in this country for years if they so feel inclined, whilst in the duties levied on home-made spirits in England, the law allows no credit whatever. In the 7th report of the commissioners of excise it is strongly recommended that the system of warehousing home-made spirits free of duty, should be made general throughout the United Kingdom; and that, with respect to allowances for loss, leakage, deficiencies, &c., home-made spirits should be placed on the same footing with foreign and colonial spirits. After a recommendation coming from such a high quarter, it is surely not unreasonable for the distillers and barley growers to request this favour from the Treasury, as it is only giving them the same facilities which are granted to the proprietors of foreign and colonial spirits. If foreign spirits, on which the duty is 22s. per gallon and upwards, can, with safety to the revenue, be bonded, and transferred from one warehouse to another, surely any risk of revenue on the warehousing of British spirits must be fanciful in the extreme, the duty on them being more than two-thirds under that charged on Geneva and Brandies. In addition to the usual arguments adduced in favour of the warehousing system, there are peculiar reasons for extending this system to British made spirits, for

supposing that this accommodation was extended to the home distillers, in a season when the crop of barley was large, and, consequently, under its average value, a demand would arise for it amongst the distillers, for the purposes of bonding British spirits, and prices would be raised by this demand, to nearer its intrinsic value. It is well ascertained that spirits improve in quality so much by age, as to compensate for the waste and expenses incident to keeping; nothing, therefore, certainly can be of more importance to the growers of barley, when a plentiful crop is produced, than the conversion of the surplus of it into spirits of excellent quality; for the deterioration which arises from holding over barley in its natural state, for a year or longer, can scarcely ever be repaid by any advance which may afterwards occur in prices. This is, therefore, an agricultural question of considerable importance, and we recommend it to the attention of the Chancellor of the Exchequer. The duty of 7s. 6d. per gallon now charged on the manufacture of British spirits is also much too high, and does not produce to the revenue the intended consequences; and a high charge on an article not worth 2s., is a great inducement to the smuggler, and, accordingly, several millions of gallons of foreign spirits are annually consumed in this country, which pay no duty whatever. As sixteen gallons of proof spirits are equal to one quarter of barley, it is not difficult to calculate the injury done to British agriculture by this evasion of the corn laws; but this subject we shall, in our next number, place at greater length before our readers.

The fluctuations which have occurred in the value of agricultural produce, during the last month, have not been material, and no interesting business has been transacted during its continuance. The supply and the consumption have been less than usual, but much on an equality with each other; the trade has been heavy, but still sales have been effected of everything offered in the various markets throughout the United Kingdom. The duties now payable in foreign grain, if entered for home consumption, are generally lower than they were at the close of April. The charge on wheat is 27s. 8d., on barley 18s. 4d., on oats 13s. 9d., on rye 22s. 9d., on beans 16s. 9d., and on peas 19s. 9d. per qr., and will be still lower for two or three weeks to come at any rate.

As the London market is the pivot round which, not only those of the United Kingdoms, but also very frequently all the European corn markets revolve, reference generally need only be made to the one, to form a correct opinion of the remainder. The latest information received from abroad, on the state of the corn trade generally, is unusually uninteresting. The export demand everywhere continued to be dull, and the little chance existing of foreign grain finding a vent to any extent for consumption in this country added considerably to the heaviness in the corn trade; since, however, it has become apparent that, under the corn laws, the growth of the United Kingdom is annually gaining on the consumption at

home; the continental farmers have discontinued in some measure the culture of grain and turned their attention more to that of wool, for which they find a profitable and ready market in this country to the value of upwards of five millions sterling annually. Beyond the quantity necessary therefore for home use, wool is found a more profitable article for cultivation than wheat, and its growth is considered of greater importance in various districts on the continent, and to our manufacturers this alteration is of equal consequence. The quantity no doubt will annually increase, and in payment for it, it may naturally be expected that an increased exportation of manufactured goods will be rendered necessary. The value of the wool trade is not sufficiently adverted to by our agricultural interest; statistics calculate the number of sheep in the United Kingdom at forty millions, and the annual value of their fleeces at nearly twelve millions sterling. Attention, therefore, should be drawn to the great importance of this branch of our agricultural industry, connected as it is with the most valuable department of our manufactures; it is, indeed, of much more consequence than is any quantity of foreign grain which can be imported under our present laws.

In Danzig, which is the principal market for Polish wheat, the latest account advise a great dulness as existing in the corn trade, and the purchases which were effected for exportation, as being more than usually limited in their amount. Under such circumstances, prices remained nominally without any alteration, though, to effect sales, to any extent, lower rates, would no doubt have been accepted. For the English markets the wheat to be shipped this season will be first chiefly converted into Flour, to suit the more southern consumption, this operation not being at present permitted in this country by the corn laws. Towards the close of the year it is not improbable that the demand for America and for our own colonies may be again renewed and their foreign flour may find remunerating prices in our market for these purposes.

From Hamburg the accounts received of the state of the corn trade, are equally discouraging, no sales for exportation to any amount having been effected. The supply was more than equal to the consumption, and a decline in price was anticipated, in which event, no doubt, a quantity will be ground down for the English export market. Last season and during the present spring, a considerable quantity of German flour was shipped direct from Hamburg for Jamaica, and our other West Indian possessions under the German flag, a circumstance which has increased the desire expressed by our ship-owners for permission being granted to our millers to grind foreign wheat under bond; this however, cannot now take place until the next session of parliament, if it be permitted them.

From Holland the accounts received are equally unsatisfactory to the foreign corn speculators. In Rotterdam there was no foreign demand for any description of grain, and sales were therefore confined

to the home consumers. For oats and barley, however, the distillers created a considerable demand.

Throughout France cold weather and a late spring continue, (as here) to be complained of, but still no fears exist respecting the corn crops, which continue to look strong and healthy, particularly in the southern departments. At Rouen, Havre, and the different sea-ports, speculation in foreign wheat had considerably subsided, and prices for home consumption had been to a certain degree reduced. Prices are, however, still considered too high, and a decline is expected when the weather becomes more favourable.

From the United States of America the news is rather late, but it is not of much consequence to the Corn Trade, which is mentioned as being dull without much variation in prices. When our corn trade was more open to foreigners than it fortunately is at present, we annually received large supplies of flour from the United States, but matters now are very much altered, and a foreign importation of grain into that country has become necessary to the wants of her prodigiously increased and increasing population. It is rather expected that this deficiency in home-grown corn will annually occur, as the growth of cotton, wool, and other articles, are considered more valuable to the landed interest in that Republic, than is the culture of grain, and the Americans are wise enough to purchase from foreigners all articles, which are cheaper than they can be produced at home. In this great and rising country we look, therefore, forward with strong hopes, for an extensive market, before many years can pass away, for the surplus of British and Irish grain; an event which the corn laws, as they now exist, most probably will produce, and thus draw additional wealth into the empire. The new States of Mexico and of South America will likewise require supplies of grain annually. This has hitherto been a good and favorable trade for the land-cultivators, and for the merchants of the United States, and we confidently trust and expect that our farmers and merchants will before long participate in its many advantages. This change in agricultural affairs will give additional productive employment to the inhabitants of this great empire, solidity to its institutions, and increase the general prosperity of all classes of society.

CURRENCY PER IMPERIAL MEASURE.

	Per Qr.	Per Qr.
WHEAT, Essex & Kent . . . red 58	60 63	white 60 66 70
Suffolk & Norfolk . . .	60 62	do. . . 62 66
Irish	48 54	do. . . 52 58
RYE old	— 31	new . . . 32 36
BARLEY, Grinding 32 . . . Malting	35 36	Chevalier 38 40
Irish	26 —	Bere . . . 23 25
MALT, Suffolk & Norfolk . . .	61 64	Brown . . 52 56
Kingston & Ware . . .	62 63	pale ship 62 64
OATS, Yorkshire & Lincolnsh, feed	22 26	Potatoes . 24 28
Youghall & Cork black . . .	22 23	Cork, white 22 24
Dublin	22 24	Westport 24 25
Clonmel	24 25	Limerick 24 25 26
Londonderry	23 24	Sligo . . 24 25
Newry	25 27	
Galway	21 22	
Waterford	20 21	Ballina . 24 25
Scotch Feed	24 25	Potatoes 27 28
BEANS	34 36	Small . . 38 40
PEAS, Grey	35 36	mangle . 33 36
White	— 36	boilers . 40 41

SEED, Rape	26 1	30 1	Irish 25 1	per last
English Red Clover, fine.....	60	70	90s	per cwt
White	58	68	74s	
Mustard, White ..8s	10s.	brown 10s	12s	per bushl.
Tares ..32 36.....	old 28	30..new 40	44s	per qr.
FLOUR, Town-made	57..	Suffolk ..47	48	per sk of
Stockton & Norfolk 47	48..	Irish fines 48	50	280 lb.
		Superfine..50	52	

Foreign Grain and Flour in Bond.

WHEAT, Dantzic	40	45 to 50
Hamburg	40	44
BARLEY	16	20
OATS.....Potatoc	18	21 feed 14 to 18
BEANS	25	—
PEAS	22	26
FLOUR, American.....per brl.	—	24 Baltic 24

IMPERIAL AVERAGES.

Week ending	Wheat.	Barley	Oats	Rye	Beans	Peas
13th April.	58 10	30 1	21 10	31 8	34 2	31 11
20th ..	58 9	29 10	21 8	31 4	34 9	33 3
27th ..	59 0	29 9	21 10	32 9	34 9	33 7
4th May	60 0	30 1	22 0	31 4	34 11	33 8
11th ..	60 10	29 10	22 0	31 3	36 4	34 4
18th ..	62 2	30 2	22 8	32 6	36 5	34 4
Aggregate Average of the six weeks which regulates the duty.....	59 11	29 11	22 0	31 10	35 3	33 6
Duties payable in London till Wednesday next inclusive, and at the Outports till the arrival of the Mail of that day from London.....	27 8	18 4	13 9	22 9	16 9	19 9
Do. on grain from British possessions out of Europe.....	5 0	2 6	2 6	3 0	3 0	3 0
Foreign Flour, 17s. 3d. per 196lbs.						
British Possessions, do.						
3s. per 196lbs.						

COMPARATIVE PRICES OF GRAIN.

WEEKLY AVERAGES by the Imp. Quarter, from the Gazette, of Friday last, May 25, 1838.	AVERAGES from the corresponding Gazette in the last year, Friday May 26, 1837.
s. d.	s. d.
WHEAT	62 2
BARLEY	30 2
OATS	22 8
RYE	32 6
BEANS	36 5
PEAS	34 4
WHEAT	54 4
BARLEY	28 7
OATS	24 0
RYE	33 2
BEANS	38 2
PEAS	39 3

An Account of the quantity of Foreign Grain and Flour imported into the United Kingdom during the month ending the 5th May, 1838; the Quantity on which the Duty has been paid for Home Consumption, and the quantity remaining in Warehouse.

Foreign Grain and Flour.	Quantity imported.	Quantity entered for consumption	Quantity remaining in warehouse.
	qrs. bush.	qrs. bush.	qrs. bush.
Wheat from British Possessions.....	...	...	5961 3
Ditto Foreign.....	1308 5	1549 1	498592 1
Barley	70 7	33 3	29254 5
Oats	956 0	28 6	237357 7
Rye	...	1363 6	6168 4
Beans	...	16 0	4959 4
Peas	96 3	17 6	19178 5
Indian Corn.....	...	...	1987 0
	cwts.qrs.lbs.	cwts.qrs.lbs.	cwts.qrs.lbs.
Flour from British Possessions.....	362 2 21	1119 1 20	13240 2 11
Ditto Foreign.....	17360 0 14	3 0 6	110284 2 11

PRICE OF SEEDS.

MAY 28.

The value of both red and white Clover Seed has undergone no change since our last, the transactions having been confined to a few lots taken on speculation; to-day there was less doing in Mustard and Turnip seeds, but prices were well supported. Linseed and Rapeseed, owing to some demand for shipment to France and Belgium, was held at a trifling advance, little, however, was done in either article. Other descriptions of seeds nominally as last week.

CLOVER, English red.....	56	70	white	50	68	per cwt.
		superfine..72	80			
Dutch	—	—	—	—	—	
German	—	—	—	—	—	
French	56	60	super..	63	70	
American	—	—	—	—	—	
Trefoil	—	—	—	12	19	
Rapeseed, English	£30	£32	foreign	£24	£28	per last.
Linseed, English Sowing ..	—	—	—	44	48	per qr.
Baltic	—	—	—	crushing	36	42
Mediter. & Odessa	—	—	—	—	40	44
Hempseed, small.....	32	34	large	38	40	
Canary, new.....	36	38	old	40	42	
Caraway	—	—	—	40	44	
Coriander	—	—	—	11	14	per cwt.
Mustard, brown	7	12	14	white 6s	8s 6d	per bush.
Turnip Seed, new Swedes.....	20	21	other sts.	28	36	
Rye Grass, English.....	30	56	Scotch	18	42	
Tares. Winter.....	4s 3d	spring 4s 3d	5s 0d	—	—	

PRICES OF HOPS.

BOROUGH, MAY 28.

The market prices continue the same as last week—with more demand, particularly for yearling Hops. The first instalment of last year's duty, now payable, forced a good many yearling Hops on the market at low rates—they have been taken off freely by the merchants and speculators. The district reports being generally very unfavourable, a considerable advance is now looked for. Estimated Duty from 145 to 150m.

PRESENT PRICES.

	£ s.	£ s.	£ s.
East Kent Pocket, from.....	4	4 to 4 15	superfine.. 5 12
Bags	4	0	4 10 5 5
Mid Kent Pockets.....	3	15	4 10 5 5
Bags	3	15	4 4 5 0
Weald of Kent Pockets	3	10	4 2 4 10
Sussex do.....	3	3	15 4 4
Yearlings.....	2	2	3 3 3 10
Old.....	1	1	15 2 10
Old olds.....	0	18	1 5 1 10

HOPS.—The following abstract from the official statements relative to the excise revenue on hops is given in continuation of a table inserted in the *Gazette* of August 25th, 1837:—

Year.	Acres of hops in Eng.	Duty.	Acres of hops in Netts.	Duty.
1833	49,187½	£272,894	7 0	£ 598
1834	51,273	329,895	726½	6,233
1835	53,816	409,005	734½	384
1836	55,422	348,975	757½	3,8 2
1837	56,323	310,794	757½	5,802

EAST RETFORD, May 24.—Although we do not at present find the plantations backwarder than last year, still owing to the excessively cold nights experienced last week (three of which produced ice of the thickness of a half crown,) and to the cold northerly winds which since then have prevailed, many of the plants, particularly in low situations, have received so much injury as to render it very doubtful whether they can ever recover; even in the best situations, and in the strongest soils, their general colour is yellow and sickly, whilst the buds are partially covered with a kind of rusty substance indicative of ill health, and not unfrequently the forerunner of a smit. The bine during the last fortnight, has been much infested with the flea, and the leaves are much perforated. All these appearances are against the probability of a crop being realised this

season. Already has this state of the plant affected the price of the stock on hand, and to make purchases of good samples of North Clays, of last year's growth, an increase of at least 10s. per cwt. must be submitted to, and even at this rate the holders are very shy of parting with them. To use the expression of a Kentish correspondent, "judging from present appearances, hops will be hops again."

WOOL MARKETS.

BRITISH.

Per lb.	MAY 1.			JUNE 1.		
	s.	d.	s. d.	s.	d.	s. d.
Down Togs.....	1	6	to 1 7	1	5½	to 1 6½
Half-bred do.....	1	6½	to 1 7½	1	5½	to 1 6½
Ewes and Wethers.....	1	3½	to 1 4½	1	2½	to 1 3½
Blanket Wool.....	0	10	to 1 1	0	9	to 1 0
Flannel do.....	1	0	to 1 4	1	1	to 1 3
Skin Combing.....	1	0½	to 1 2	1	0½	to 1 2½

WAKEFIELD, May 25.—In long wool we have little improvement in the finer sorts, and although we cannot quote any advance in the middle and lower sorts, there is rather a firmer feeling with the holders of them. We have had more doing in all wools adapted to the blanket trade, and on rather better terms.

EXETER.—It is rare that the market has been so completely at a stand as at this time with respect to York Wool, 9d. per lb. being offered, but on which terms nobody will sell. In washed Wools some business, but not to a great extent, has been done, at a quotation, for Knott, of from 11d. to 11½d.; Dorset, 12d. to 12½d.; and Marsh Wool 13d. to 14d. per lb. In sorts, with the exception of those adapted to the manufacture of blankets, of which purchases have been made, there is no great amount of business doing, nor in any description can we at all speak of improvement, the quotation being—Broad Head, 8d.; Kent, Head, 9d.; Red, Green and Pinions, 10d.; Fine Head, 10½d. to 11d.; Fell Combing, 10d. to 11d.; Cornish Stripe, 13d. to 13½d.; North Devon Stripe, 13d. to 13½d.; and Tops, 16d. to 16½d. per lb.

LIVERPOOL, SATURDAY, MAY 26.

SCOTCH.—There has been more doing again this week in laid Highland wool at our highest quotations. White Highland is scarce. There has been a large business done in cross and low unwashed Cheviot wool, as well as a fair business in the very best descriptions at our highest quotations.

Per Stone of 24 lbs.	s.	d.	s. d.
Laid Highland Wool, from	10	0	to 10 6
White do.	12	0	—
Laid Crossed do.	13	0	14 0
Washed do.	15	0	16 0
Laid Cheviot, do.	15	0	16 0
Washed do.	20	0	23 0
White do. do scarce.....	26	0	23 0
Import for the week	415 bags.		
Previously this year	5801 do.		

The present week's imports are extensive, and they consist of about 1,000 bags from Peru, and the residue from the Mediterranean. Until the result of the public sales is known, we do not anticipate much business. The sales this week have been rather limited, but we have no change in the rates to notice. Imports this week 2,584 bags, previously this year 17,410—total 19,994.

SCOTCH.

Per Stone of 24 lbs.	MAY 1.			JUNE 1.		
	s.	d.	s. d.	s.	d.	s. d.
Laid Highland Wool, from, 10	0	to 10	6	10	0	to 10 6
White Do.	12	0	—	12	0	—
Laid Crossed Do.....	13	0	14 0	13	0	14 0
Washed Do.	15	0	16 0	15	0	16 0
Laid Cheviots.....	15	0	16 0	15	0	16 0
Washed Do.....	20	0	23 0	20	0	23 0
White Do.....	26	0	28 0	26	0	28 0

FOREIGN.

MAY 28.

Inferior German wool is in steady demand, at fully last week's quotations; but, with other kinds of foreign wool, trade is dull at barely late rates. The imports since our last have been moderate.

Electoral Saxony wool, from 4s. 0d. to 5s. 0d.; first Austrian, Bohemian, and other German wools, 3s. 0d. to 4s. 0d.; second do., 2s. to 2s. 10d.; inferior do. in locks and pieces, 1s. 6d. to 2s.; German lamb's do., 2s. to 2s. 10d.; Hungarian sheep's do., 2s. to 3s.; Leonesa sheep's do., 2s. to 3s.; Segovia do., 1s. 6d. to 3s.; Soria do., 2s. to 3s. 0d.; Cáceres do., 2s. to 3s.; Spanish lamb's do., 1s. 6d. to 2s. 4d.; German and Spanish cross do., 2s. 0d. to 3s. 0d.; Portugal lamb's ditto, 1s. 6d. to 2s. 6d.; Australian, fine crossed do., 2s. to 3s. 4d.; do. native sheep's do., 1s. 6d. to 2s. 6d.; Van Diemen's Land, native sheep's do., 10d. to 2s.; and Cape of Good Hope do., 1s. 0d. to 2s. 9d. per lb.

THE WOOL TRADE, LONDON, THURSDAY EVENING.—In the wool trade there are indications of an increase of business, and rather better prices have been paid for Spanish, German, and Colonial fleeces. The importations in the week ending to-day, have been 1900 bales, including 1036 from Spain, 338 from the Cape, 275 from Van Diemen's Land, 135 from Germany, and the remainder from Turkey, South America, and Italy.

Wool on which the Home Consumption Duties have been paid at London, Liverpool Bristol, and Hull, during the last week:—

WOOL.	This Year, previous to last week.	Same time in the last Year.
Spanish, London	765,098	679,994
Australian, do.	432,275	272,461
Other Sorts, do.	418,497	493,913
Liverpool	315,834	—
Bristol	4,000	—
Hull	525,083	237,619

POTATO MARKET.

SOUTHWARK, WATERSIDE, MAY 28.

The supply of Potatoes to the waterside as quoted in our last, being unusually heavy for the season in its present advanced state, has been followed by a very liberal one during the past week, and though not more than equal to one half of the former, is nevertheless an abundant supply for the season of year, and the present mild weather. They are as follow: from Yorkshire 425 tons, Scotland 520 tons, Devonshire 550 tons, Jersey and Guernsey 369, Wisbeach 51, Kent Essex and Suffolk 120, making together a total of 2035 tons. Annexed we quote the present rate of prices.

Per Ton.		Jersey and Guernsey	
York Reds.....	90s —s	Blues.....	—s 60s
Kids.....	—s 70s	Wisbeach Blues.....	—s 55s
American Natives.....	—s 60s	Whites.....	—s 50s
Cheshire Whites.....	—s —s	Kent Kidneys.....	—s 70s
York Shaws	—s 60s	Kent, Essex, and	—s —s
Scotch Reds.....	60s 70s	Suffolk Whites.....	50s 60s
Late Devons.....	70s 75s		

END OF VOLUME VIII.









